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THÔNG BÁO KỸ THUẬT TÀU BIỂN
TECHNICAL INFORMATION ON SEA-GOING SHIPS

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Nội dung: Nghị quyết A.1138(31) về Quy trình kiểm tra tàu của quốc gia có cảng năm 2019, và Nghị quyết A.1140(31) về Hướng dẫn kiểm tra tàu theo hệ thống hài hòa kiểm tra và chứng nhận năm 2019.

Kính gửi: Các chủ tàu/công ty quản lý tàu biển
Các đơn vị đăng kiểm tàu biển

Tại khóa họp thứ 31 (tháng 12/2019), Đại hội đồng của Tổ chức Hàng hải quốc tế (IMO) đã thông qua:

- Nghị quyết A.1138(31) về Quy trình kiểm tra tàu của quốc gia có cảng năm 2019;
- Nghị quyết A.1140(31) về Hướng dẫn kiểm tra tàu theo hệ thống hài hòa kiểm tra và chứng nhận năm 2019.

Đề nghị các Quý Đơn vị phổ biến các Nghị quyết nêu trên của IMO đến tất cả các công ty vận tải biển và các tàu biển.

Thông báo kỹ thuật này được nêu trong mục: *Thông báo/ Thông báo kỹ thuật tàu biển* của Cổng thông tin điện tử Cục ĐKVN: <http://www.vr.org.vn>.

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Nơi nhận:

- Như trên;
- Phòng QP, TB, CN, HTQT;
- Trung tâm VRQC, TH;
- Các chi cục đăng kiểm;
- Lưu TB./.

ASSEMBLY
31st session
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**Adopted on 4 December 2019
(Agenda item 10)**

PROCEDURES FOR PORT STATE CONTROL, 2019

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization regarding the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.1119(30), by which it adopted *Procedures for port State control, 2017* (hereafter referred to as the "Procedures"), following successive revocation of resolutions A.1052(27), A.882(21), A.787(19), A.742(18), A.597(15) and A.466(XII),

RECOGNIZING that efforts by port States have greatly contributed to enhanced maritime safety and security, and prevention of marine pollution,

RECOGNIZING ALSO the need to update the Procedures to take account of the amendments to IMO instruments which have entered into force or have become effective since the adoption of resolution A.1119(30),

HAVING CONSIDERED the recommendations made by the Marine Environment Protection Committee, at its seventy-fourth session, and the Maritime Safety Committee, at its 101st session,

- 1 ADOPTS the *Procedures for port State control, 2019*, as set out in the annex to the present resolution;
- 2 INVITES Governments, when exercising port State control, to implement the aforementioned Procedures;
- 3 REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Procedures under review and to amend them as necessary;
- 4 REVOKES resolution A.1119(30).

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CHAPTER 1 – GENERAL

1.1 PURPOSE

This document is intended to provide basic guidance on the conduct of port State control inspections in support of the control provisions of relevant conventions and parts of the *IMO Instruments Implementation Code* (III Code) (resolution A.1070(28)) and afford consistency in the conduct of these inspections, the recognition of deficiencies of a ship, its equipment, or its crew, and the application of control procedures.

1.2 APPLICATION

1.2.1 These Procedures apply to ships falling under the provisions of:

- .1 the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS 1974);
- .2 the Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS PROT 1988);
- .3 the International Convention on Load Lines, 1966, as amended (LL1966);
- .4 the Protocol of 1988 relating to the International Convention on Load Lines, 1966, as amended (LL PROT 1988);
- .5 the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols, as amended (MARPOL);
- .6 the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW 1978);
- .7 the International Convention on Tonnage Measurement of Ships, 1969, as amended (TONNAGE 1969);
- .8 the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001 (AFS 2001);
- .9 the Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended (COLREG 1972);
- .10 the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969);
- .11 the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969, as amended (CLC PROT 1992);
- .12 the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (BUNKERS 2001);
- .13 the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as amended (BWM 2004); and
- .14 the Nairobi International Convention on the Removal of Wrecks, 2007 (NAIROBI WRC 2007),

hereafter referred to as the relevant conventions.

1.2.2 Ships of non-Parties should be given no more favourable treatment (see section 1.5).

1.2.3 For ships below convention size, Parties should apply the procedures in section 1.6.

1.2.4 When exercising port State control, Parties should only apply those provisions of the conventions which are in force and which they have accepted.

1.2.5 Where the provisions of the relevant conventions are not specific, the port State control officer (PSCO) should in principle accept the design arrangement approved by the flag State and when appropriate consult with the flag Administration.

1.2.6 The PSCO should be aware that the provisions of relevant conventions permit Administrations to grant exemptions, allow equivalents* and approve alternative design and arrangements (ADA). When an Exemption Certificate is issued in accordance with the relevant provisions of a convention, provided it includes the correct reference to the exemption provision and the requirement to which it relates, or the ship carries the approved ADA documentation (e.g. SOLAS 1974 regulation II-1/55.4.2), port State authorities should interpret this as meaning that the ship complies with the provisions of the convention. Port State authorities should check, whenever possible, with the Administration should there be any doubt whether an exemption, equivalence or ADA has been granted.

1.2.7 Notwithstanding paragraph 1.2.4, in relation to voluntary early implementation of amendments to SOLAS 1974 and related mandatory instruments, Parties should take into account the *Guidelines on the voluntary early implementation of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1565).

1.2.8 If a port State exercises control based on:

- .1 the International Labour Organization (ILO) Maritime Labour Convention, 2006, as amended (MLC 2006), guidance on the conduct of such inspections is given in the ILO publication "*Guidelines for port State control officers carrying out inspections under the Maritime Labour Convention, 2006*"; or
- .2 the ILO Convention No.147, Merchant Shipping (Minimum Standards) Convention, 1976, or the Protocol of 1996 to the Merchant Shipping (Minimum Standards) Convention, 1976, guidance on the conduct of such inspections is given in the ILO publication "*Inspection of labour conditions on board ship: Guide-lines for procedure*".

1.3 INTRODUCTION

1.3.1 Under the provisions of the relevant conventions set out in section 1.2 above, the Administration (i.e. the Government of the flag State) is responsible for promulgating laws and regulations and for taking all other steps which may be necessary to give the relevant conventions full and complete effect so as to ensure that, from the point of view of safety of life and pollution prevention, a ship is fit for the service for which it is intended and seafarers are qualified and fit for their duties.

1.3.2 The nature of international shipping means that ships may not frequently call at ports in their flag State. It is therefore common to find that such flag States appoint the nominated

* Any Administration which allows, in substitution, a fitting, material, appliance or apparatus, or type thereof, or provision, shall communicate to the Organization particulars thereof together with a report on any trials made and the Organization shall circulate such particulars to other Contracting Governments for the information of their officers (e.g. SOLAS 1974 regulation I/5).

surveyors at foreign ports and authorize recognized organizations (ROs) in accordance with the provisions of various conventions.

1.3.3 The following control procedures should be regarded as complementary to national measures taken by flag State Administrations in their countries and abroad and are intended to provide a common and consistent approach to the performance of port State control inspections and control measures taken as a consequence of the detection of serious deficiencies. These Procedures are also intended to provide assistance to flag State Administrations in securing compliance with convention provisions in safeguarding the safety of crew, passengers and ships, and ensuring the prevention of pollution.

1.4 PROVISION FOR PORT STATE CONTROL

SOLAS 1974 regulations I/19, IX/6.2, XI-1/4 and XI-2/9 , as modified by SOLAS PROT 1988; article 21 of LL 1966, as modified by LL PROT 1988; articles 5 and 6, regulation 11 of Annex I, regulation 16.9 of Annex II, regulation 9 of Annex III, regulation 14 of Annex IV, regulation 9 of Annex V and regulation 10 of Annex VI of MARPOL; article X of STCW 1978; article 12 of TONNAGE 1969, article 11 of AFS 2001 and article 9 of BWM 2004 provide for control procedures to be followed by a Party to a relevant convention with regard to foreign ships visiting their ports. The authorities of port States should make effective use of these provisions for the purposes of identifying deficiencies, if any, in such ships which may render them substandard (see section 3.1) and ensuring that remedial measures are taken.

1.5 SHIPS OF NON-PARTIES

1.5.1 Article I(3) of SOLAS PROT 1988, article I(3) of LL PROT 1988, article 5(4) of MARPOL, article X(5) of STCW 1978, article 3(3) of AFS 2001 and article 3(3) of BWM 2004 provide that no more favourable treatment is to be given to the ships of countries which are not Party to the relevant convention. All Parties should, as a matter of principle, apply these Procedures to ships of non-Parties in order to ensure that equivalent surveys and inspections are conducted and an equivalent level of safety and protection of the marine environment is ensured.

1.5.2 As ships of non-Parties are not provided with SOLAS, Load Lines, MARPOL, AFS or BWM certificates, as applicable, or the crew members may not hold STCW certificates, the port State control officer (PSCO), taking into account the principles established in these Procedures, should be satisfied that the ship and crew do not present a danger to those on board or an unreasonable threat of harm to the marine environment. If the ship or crew has some form of certification other than that required by a convention, the PSCO may take the form and content of this documentation into account in the evaluation of that ship. The conditions of and on such a ship and its equipment and the certification of the crew and the flag State's minimum manning standard should be compatible with the aims of the provisions of the conventions; otherwise, the ship should be subject to such restrictions as are necessary to obtain a comparable level of safety and protection of the marine environment.

1.6 SHIPS BELOW CONVENTION SIZE

1.6.1 In the exercise of their functions, PSCOs should be guided by any certificates and other documents issued by or on behalf of the flag State Administration. In such cases, the PSCOs should limit the scope of inspection to the verification of compliance with those certificates and documents.

1.6.2 To the extent a relevant instrument is not applicable to a ship below convention size, the PSCO's task should be to assess whether the ship is of an acceptable standard in regard to safety and the environment. In making that assessment, the PSCO should take due account

of such factors as the length and nature of the intended voyage or service, the size and type of the ship, the equipment provided and the nature of the cargo.

1.7 DEFINITIONS

1.7.1 **Bulk carrier:** While noting the definitions in SOLAS 1974 regulations IX/1.6 and XII/1.1 and resolution MSC.277(85), for the purposes of port State control, PSCOs should be guided by the ship's type indicated in the ship's certificates in determining whether a ship is a bulk carrier and recognize that a ship which is not designated as a bulk carrier as the ship type on the ship certificate may carry certain bulk cargo as provided for in the above instruments.

1.7.2 **Clear grounds:** Evidence that the ship, its equipment, or its crew do not correspond substantially with the requirements of the relevant conventions or that the master or crew members are not familiar with essential shipboard procedures relating to the safety of ships or the prevention of pollution. Examples of clear grounds are included in section 2.4.

1.7.3 **Deficiency:** A condition found not to be in compliance with the requirements of the relevant convention.

1.7.4 **Detention:** Intervention action taken by the port State when the condition of the ship or its crew does not correspond substantially with the relevant conventions to ensure that the ship will not sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment, whether or not such action will affect the normal schedule of the departure of the ship.

1.7.5 **Initial inspection:** A visit on board a ship to check the validity of the relevant certificates and other documents, the overall condition of the ship, its equipment and its crew (see also section 2.2).

1.7.6 **More detailed inspection:** An inspection conducted when there are "clear grounds", as defined under paragraph 1.7.2.

1.7.7 **Nearest appropriate and available repair yard:** A port where follow-up action can be taken, and it is in, or closest to, the port of detention or the port where the ship is authorized to proceed taking into account the cargo on board.

1.7.8 **Port State control officer (PSCO):** A person duly authorized by the competent authority of a Party to a relevant convention to carry out port State control inspections, and responsible exclusively to that Party.

1.7.9 **Recognized organization (RO):** An organization which meets the relevant conditions set forth in the Code for Recognized Organizations (RO Code) (MSC.349(92) and MEPC.237(65)), and has been assessed and authorized by the flag State Administration in accordance with provisions of the RO Code to provide the necessary statutory services and certification to ships entitled to fly its flag.

1.7.10 **Stoppage of an operation:** Formal prohibition against a ship to continue an operation due to an identified deficiency or deficiencies which, singly or together, render the continuation of such operation hazardous.

1.7.11 **Substandard ship:** A ship whose hull, machinery, equipment or operational safety is substantially below the standards required by the relevant convention or whose crew is not in conformity with the safe manning document.

1.7.12 **Valid certificates:** A certificate that has been issued, electronically or on paper, directly by a Party to a relevant convention or on its behalf by an RO, contains accurate and effective dates, meets the provisions of the relevant convention and to which the particulars of the ship, its crew and its equipment correspond.

1.8 PROFESSIONAL PROFILE OF PSCOs

1.8.1 Port State control should be carried out only by qualified PSCOs who fulfil the qualifications and training specified in section 1.9.

1.8.2 When the required professional expertise cannot be provided by the PSCO, the PSCO may be assisted by any person with the required expertise, as acceptable to the port State.

1.8.3 PSCOs and persons assisting them should be free from any commercial, financial, and other pressures and have no commercial interest in the port of inspection, the ships inspected, ship repair facilities or any support services in the port or elsewhere, nor should PSCOs be employed by or undertake work on behalf of ROs or classification societies.

1.8.4 A PSCO should carry a personal document in the form of an identity card issued by the port State and indicating that the PSCO is authorized to carry out the control.

1.9 QUALIFICATION AND TRAINING REQUIREMENTS OF PSCOs

1.9.1 The PSCO should be an experienced officer qualified as flag State surveyor.

1.9.2 The PSCO should be able to communicate in English with the key crew.

1.9.3 Training should be provided for PSCOs to give the necessary knowledge of the provisions of the relevant conventions which are relevant to the conduct of port State control, taking into account the latest IMO Model Courses for port State control.

1.9.4 In specifying the qualifications and training requirements for PSCOs, the Administration should take into account, as appropriate, which of the internationally agreed instruments are relevant for control by the port State and the variety of types of ships which may enter its ports.

1.9.5 PSCOs carrying out inspections of operational requirements should be qualified as a master or chief engineer and have appropriate seagoing experience, or have qualifications from an institution recognized by the Administration in a maritime-related field and have specialized training to ensure adequate competence and skill, or be a qualified officer of the Administration with an equivalent level of experience and training, for performing inspections of the relevant operational requirements.

1.9.6 Periodic seminars for PSCOs should be held in order to update their knowledge with respect to instruments related to port State control.

CHAPTER 2 – PORT STATE INSPECTIONS

2.1 GENERAL

2.1.1 In accordance with the provisions of the relevant conventions, Parties may conduct inspections by PSCOs of foreign ships in their ports.

2.1.2 Such inspections may be undertaken:

- .1 on the initiative of the Party;
- .2 at the request of, or on the basis of information regarding a ship provided by, another Party; or
- .3 on the basis of information regarding a ship provided by a member of the crew, a professional body, an association, a trade union or any other individual with an interest in the safety of the ship, its crew and passengers, or the protection of the marine environment.

2.1.3 Whereas Parties may entrust surveys and inspections of ships entitled to fly their own flag either to inspectors nominated for this purpose or to ROs, they should be aware that, under the relevant conventions, foreign ships are subject to port State control, including boarding, inspection, remedial action and possible detention, only by officers duly authorized by the port State. This authorization of PSCOs may be a general grant of authority or may be specific on a case-by-case basis.

2.1.4 All possible efforts should be made to avoid a ship being unduly detained or delayed. If a ship is unduly detained or delayed, it should be entitled to compensation for any loss or damage suffered.

2.2 INITIAL INSPECTIONS

2.2.1 In the pursuance of control procedures under the relevant conventions, which, for instance, may arise from information given to a port State regarding a ship, a PSCO may proceed to the ship and, before boarding, gain, from its appearance in the water, an impression of its standard of maintenance from such items as the condition of its paintwork, corrosion or pitting or unrepaired damage.

2.2.2 At the earliest possible opportunity, the PSCO should ascertain the type of ship, year of build and size of the ship for the purpose of determining which provisions of the conventions are applicable.

2.2.3 On boarding and introduction to the master or the responsible ship's officer, the PSCO should examine the ship's relevant certificates and documents required by the relevant conventions, as listed in appendix 12, part A. PSCOs should note the following:

- .1 certificates may be in hard copy or electronic form;
- .2 where the ship relies upon electronic certificates:
 - .1 the certificates and website used to access them should conform with the *Guidelines for the use of electronic certificates* (FAL.5/Circ.39/Rev.2 and Corr.1);
 - .2 specific verification instructions are to be available on the ship; and
 - .3 viewing such certificates on a computer is considered as meeting the requirement that certificates be "on board";
- .3 when examining International Tonnage Certificates, the PSCO should be guided by appendix 10; and

- .4 when examining certificates or documentary evidence of seafarers issued in accordance with STCW 1978, the PSCO should be guided by appendix 11; the list of certificates or documentary evidence required under STCW 1978 is also found in table B-I/2 of the STCW Code.

2.2.4 After the certificate and document check, the PSCO should check the overall condition of the ship, including its equipment, navigational bridge, fore-castle, cargo holds/areas, engine-room and pilot transfer arrangements and verify that any outstanding deficiency from the previous PSC inspection has been rectified.

2.2.5 If the certificates required by the relevant conventions are valid and the PSCO's general impression and visual observations on board confirm a good standard of maintenance, the PSCO should generally confine the inspection to reported or observed deficiencies, if any.

2.2.6 In pursuance of control procedures under chapter IX of SOLAS 1974 in relation to the International Safety Management Code (ISM Code), the PSCO should utilize the guidelines in appendix 8.

2.2.7 If, however, the PSCO from general impressions or observations on board has clear grounds for believing that the ship, its equipment or its crew do not substantially meet the requirements, taking into account paragraph 1.2.6, the PSCO should proceed to a more detailed inspection, taking into consideration sections 2.4 and 2.5. In forming such an impression, the PSCO should utilize the guidelines in relevant appendices.

2.3 GENERAL PROCEDURAL GUIDELINES FOR PSCOs

2.3.1 The PSCO should observe the *Code of good practice for port State control officers* (MSC-MEPC.4/Circ.2), as shown in appendix 1, use professional judgement in carrying out all duties and consider consulting others as deemed appropriate.

2.3.2 When boarding a ship, the PSCO should present to the master or to the representative of the owner, if requested to do so, the PSCO identity card. This card should be accepted as documented evidence that the PSCO in question is duly authorized by the Administration to carry out port State control inspections.

2.3.3 If the PSCO has clear grounds for carrying out a more detailed inspection, the master should be immediately informed of these grounds and advised that, if so desired, the master may contact the Administration or, as appropriate, the RO responsible for issuing the certificate and invite their presence on board.

2.3.4 In the case that an inspection is initiated based on a report or complaint, especially if it is from a crew member, the source of the information should not be disclosed.

2.3.5 When exercising control, all possible efforts should be made to avoid a ship being unduly detained or delayed. It should be borne in mind that the main purpose of port State control is to prevent a substandard ship proceeding to sea. The PSCO should exercise professional judgement to determine whether to detain a ship until the deficiencies are corrected or to allow it to sail with certain deficiencies, having regard to the particular circumstances of the intended voyage.

2.3.6 It should be recognized that all equipment is subject to failure and spares or replacement parts may not be readily available. In such cases, undue delay should not be caused if, in the opinion of the PSCO, safe alternative arrangements have been made.

2.3.7 Where the grounds for detention are the result of accidental damage suffered to a ship, no detention order should be issued, provided that:

- .1 due account has been given to the convention requirements regarding notification to the flag State Administration, the nominated surveyor or the RO responsible for issuing the relevant certificate;
- .2 prior to entering a port, the master or company has submitted to the port State authority details of the circumstances of the accident and the damage suffered and information about the required notification of the flag State Administration;
- .3 appropriate remedial action, to the satisfaction of the port State authority, is being taken by the ship; and
- .4 the port State authority has ensured, having been notified of the completion of the remedial action, that deficiencies which were clearly hazardous to safety, health or environment have been rectified.

2.3.8 Since detention of a ship is a serious matter involving many issues, it may be in the best interest of the PSCO to act together with other interested parties (see paragraph 4.1.3). For example, the officer may request the owner's representatives to provide proposals for correcting the situation. The PSCO should also consider cooperating with the flag State Administration's representatives or the RO responsible for issuing the relevant certificates, and consulting them regarding their acceptance of the owner's proposals and their possible additional requirements. Without limiting the PSCO's discretion in any way, the involvement of other parties could result in a safer ship, avoid subsequent arguments relating to the circumstances of the detention and prove advantageous in the case of litigation involving "undue delay".

2.3.9 Where deficiencies cannot be remedied at the port of inspection, the PSCO may allow the ship to proceed to another port, subject to any appropriate conditions determined. In such circumstances, the PSCO should ensure that the competent authority of the next port of call and the flag State are notified.

2.3.10 Detention reports to the flag State should be in sufficient detail for an assessment to be made of the severity of the deficiencies giving rise to the detention.

2.3.11 The company or its representative have a right of appeal against a detention taken by the authority of a port State. The appeal should not cause the detention to be suspended. The PSCO should properly inform the master of the right of appeal.

2.3.12 To ensure consistent enforcement of port State control requirements, PSCOs should carry an extract of section 2.3 (General procedural guidelines for PSCOs) for ready reference when carrying out any port State control inspections.

2.3.13 PSCOs should also be familiar with the detailed guidelines given in the appendices to these Procedures.

2.4 CLEAR GROUNDS

2.4.1 When a PSCO inspects a foreign ship which is required to hold a convention certificate, and which is in a port or an offshore terminal under the jurisdiction of the port State, any such inspection should be limited to verifying that there are on board valid certificates and

other relevant documentation and the PSCO forming an impression of the overall condition of the ship, its equipment and its crew, unless there are "clear grounds" for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates.

- 2.4.2 "Clear grounds" to conduct a more detailed inspection include but are not limited to:
- .1 the absence of principal equipment or arrangements required by the relevant conventions, taking into account paragraph 1.2.6;
 - .2 evidence from a review of the ship's certificates that a certificate or certificates are invalid;
 - .3 evidence that certificates and documents required by the relevant conventions and listed in appendix 12, part A are not on board, incomplete, not maintained or are falsely maintained;
 - .4 evidence from the PSCO's general impressions and observations that serious hull or structural deterioration or deficiencies exist that may place at risk the structural, watertight or weathertight integrity of the ship;
 - .5 evidence from the PSCO's general impressions or observations that serious deficiencies exist in the safety, pollution prevention or navigational equipment;
 - .6 information or evidence that the master or crew is not familiar with essential shipboard operations relating to the safety of ships or the prevention of pollution, or that such operations have not been carried out;
 - .7 indications that key crew members may not be able to communicate with each other or with other persons on board;
 - .8 the emission of false distress alerts not followed by proper cancellation procedures; and
 - .9 receipt of a report or complaint containing information that a ship appears to be substandard.

2.5 MORE DETAILED INSPECTIONS

2.5.1 If the ship does not carry valid certificates, or if the PSCO, from general impressions or observations on board, has clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates or that the master or crew is not familiar with essential shipboard procedures, a more detailed inspection, as described in this chapter, should be carried out, utilizing relevant appendices.

2.5.2 Support during the more detailed inspection could be found in the documents mentioned in appendix 12, part B, where applicable.

2.5.3 It is not envisaged that all of the equipment and procedures outlined in this chapter would be checked during a single port State control inspection, unless the condition of the ship or the familiarity of the master or crew with essential shipboard procedures necessitates such a detailed inspection. In addition, these procedures are not intended to impose the seafarer certification programme of the port State on a ship entitled to fly the flag of another Party to STCW 1978 or to impose control procedures on foreign ships in excess of those imposed on ships of the port State.

CHAPTER 3 – CONTRAVENTION AND DETENTION

3.1 IDENTIFICATION OF A SUBSTANDARD SHIP

3.1.1 In general, a ship is regarded as substandard if the hull, machinery, equipment or operational safety and the protection of the environment is substantially below the standards required by the relevant conventions or if the crew is not in conformity with the safe manning document, owing to, inter alia:

- .1 the absence of principal equipment or arrangement required by the conventions, taking into account paragraph 1.2.6;
- .2 non-compliance of equipment or arrangement with relevant specifications of the conventions, taking into account paragraph 1.2.6;
- .3 substantial deterioration of the ship or its equipment;
- .4 insufficiency of operational proficiency, or unfamiliarity with essential operational procedures by the crew; and
- .5 insufficiency of manning or insufficiency of certification of seafarers.

3.1.2 If these evident factors as a whole or individually pose a danger to the ship or persons on board or present an unreasonable threat of harm to the marine environment if it were allowed to proceed to sea, it should be regarded as a substandard ship. The PSCO should also take into account the guidelines in appendix 2.

3.2 SUBMISSION OF INFORMATION CONCERNING DEFICIENCIES

3.2.1 Information that a ship appears to be substandard could be submitted to the appropriate authorities of the port State (see section 3.3) by a member of the crew, a professional body, an association, a trade union or any other individual with an interest in the safety of the ship, its crew and passengers, or the protection of the marine environment.

3.2.2 This information should be submitted in writing to permit proper documentation of the case and of the alleged deficiencies. If the information is passed verbally, the filing of a written report should be required, identifying, for the purposes of the port State's records, the individual or body providing the information. The attending PSCO may collect this information and submit it as part of the PSCO's report if the originator is unable to do so.

3.2.3 Information which may cause an investigation should be submitted as early as possible, giving adequate time to the authorities to act as necessary.

3.2.4 Each Party to the relevant convention should determine which authorities should receive information on substandard ships and initiate action. Measures should be taken to ensure that information submitted to the wrong department is promptly passed on by such department to the appropriate authority for action.

3.3 PORT STATE ACTION IN RESPONSE TO ALLEGED SUBSTANDARD SHIPS

3.3.1 On receipt of information about an alleged substandard ship or alleged pollution risk, the authorities should immediately investigate the matter and take the action required by the circumstances in accordance with the preceding sections.

3.3.2 Authorities which receive information about a substandard ship that could give rise to detention should forthwith notify any maritime, consular and/or diplomatic representatives of the flag State in the area of the ship and request them to initiate or cooperate with investigations. Likewise, the RO which has issued the relevant certificates on behalf of the flag State should be notified. These provisions will not, however, relieve the authorities of the port State, being a Party to a relevant convention, of the responsibility for taking appropriate action in accordance with its powers under the relevant conventions.

3.3.3 If the port State receiving information is unable to take action because there is insufficient time or no PSCOs can be made available before the ship sails, the information should be passed to the authorities of the country of the next appropriate port of call, to the flag State and also to the RO in that port, where appropriate.

3.4 RESPONSIBILITIES OF PORT STATE TO TAKE REMEDIAL ACTION

If a PSCO determines that a ship can be regarded as substandard as specified in section 3.1 and appendix 2, the port State should immediately ensure that corrective action is taken to safeguard the safety of the ship and passengers and/or crew and eliminate any threat of harm to the marine environment before permitting the ship to sail.

3.5 GUIDANCE FOR THE DETENTION OF SHIPS

Notwithstanding the fact that it is impracticable to define a ship as substandard solely by reference to a list of qualifying defects, guidance for the detention of ships is given in appendix 2.

3.6 SUSPENSION OF INSPECTION

3.6.1 In exceptional circumstances where, as a result of a more detailed inspection, the overall condition of a ship and its equipment, also taking into account the crew conditions, is found to be obviously substandard, the PSCO may suspend an inspection.

3.6.2 Prior to suspending an inspection, the PSCO should have recorded detainable deficiencies in the areas set out in appendix 2, as appropriate.

3.6.3 The suspension of the inspection may continue until the responsible parties have taken the steps necessary to ensure that the ship complies with the requirements of the relevant instruments.

3.6.4 In cases where the ship is detained and an inspection is suspended, the port State authority should notify the responsible parties without delay. The notification should include information about the detention, and state that the inspection is suspended until that authority has been informed that the ship complies with all relevant requirements.

3.7 PROCEDURES FOR RECTIFICATION OF DEFICIENCIES AND RELEASE

3.7.1 The PSCO should endeavour to secure the rectification of all deficiencies detected.

3.7.2 In the case of deficiencies which are clearly hazardous to safety or the environment, the PSCO should, except as provided in paragraph 3.7.3, ensure that the hazard is removed before the ship is allowed to proceed to sea. For this purpose, appropriate action should be taken, which may include detention or a formal prohibition of a ship to continue an operation due to established deficiencies which, individually or together, would render the continued operation hazardous.

3.7.3 Where deficiencies which caused a detention, as referred to in paragraph 3.7.2, cannot be remedied in the port of inspection, the port State authority may allow the ship concerned to proceed to the nearest appropriate repair yard available, as chosen by the master and agreed to by that authority, provided that the conditions agreed between the port State authority and the flag State are complied with. Such conditions will ensure that the ship should not sail until it can proceed without risk to the safety of the passengers or crew, or risk to other ships, or without presenting an unreasonable threat of harm to the marine environment. Such conditions may include confirmation from the flag State that remedial action has been taken on the ship in question. In such circumstances the port State authority should notify the authority of the ship's next port of call, the parties mentioned in paragraph 4.1.4 and any other authority as appropriate. Notification to authorities should be made in the form shown in appendix 14. The authority receiving such notification should inform the notifying authority of action taken and may use the form shown in appendix 15.

3.7.4 On the condition that all possible efforts have been made to rectify all other deficiencies, except those referred to in paragraphs 3.7.2 and 3.7.3, the ship may be allowed to proceed to a port where any such deficiencies can be rectified.

3.7.5 If a ship referred to in paragraph 3.7.3 proceeds to sea without complying with the conditions agreed to by the authority of the port of inspection, that port State authority should immediately alert the next port, if known, the flag State and all other authorities it considers appropriate.

3.7.6 If a ship referred to in paragraph 3.7.3 does not call at the nominated repair port, the port State authority of the repair port should immediately alert the flag State and detaining port State, which may take appropriate action, and notify any other authority it considers appropriate.

CHAPTER 4 – REPORTING REQUIREMENTS

4.1 PORT STATE REPORTING

4.1.1 Port State authorities should ensure that, at the conclusion of an inspection, the master of the ship is provided with a document showing the results of the inspection, details of any action taken by the PSCO, and a list of any corrective action to be initiated by the master and/or company. Such reports should be made in accordance with the format in appendix 13.

4.1.2 Where, in the exercise of port State control, a Party denies a foreign ship entry to the ports or offshore terminals under its jurisdiction, whether or not as a result of information about a substandard ship, it should forthwith provide the master and flag State with reasons for the denial of entry.

4.1.3 In the case of a detention, at least an initial notification should be made to the flag State Administration as soon as practicable (see paragraphs 2.3.8 and 3.3.2). If such notification is made verbally, it should be subsequently confirmed in writing. As a minimum, the notification should include details of the ship's name, the IMO number, copies of Forms A and B as set out in appendix 13, time of detention and copies of any detention order. Likewise, the ROs which have issued the relevant certificates on behalf of the flag State should be notified, where appropriate. The parties above should also be notified in writing of the release of detention. As a minimum, this information should include the ship's name, the IMO number, the date and time of release and a copy of Form B as set out in appendix 13.

4.1.4 If the ship has been allowed to sail with known deficiencies, the authorities of the port State should communicate all the facts to the authorities of the country of the next appropriate port of call, to the flag State, and to the RO, where appropriate.

4.1.5 Parties to a relevant convention, when they have exercised control giving rise to detention, should submit to the Organization reports in accordance with SOLAS 1974 regulation I/19, article 11 of MARPOL, or article X(3) of STCW 1978. Such deficiency reports should be made in accordance with the form given in appendices 13 or 16, as appropriate, or may be submitted electronically by the port State or a regional PSC regime.

4.1.6 Copies of such deficiency reports should, in addition to being forwarded to the Organization, be sent by the port State without delay to the authorities of the flag State and, where appropriate, to the RO which had issued the relevant certificate. Deficiencies found which are not related to the relevant conventions, or which involve ships of non-Parties or below convention size, should be submitted to flag States and/or to appropriate organizations but not to IMO.

4.1.7 Relevant telephone numbers and addresses of flag States' headquarters to which reports should be sent as outlined above, as well as addresses of flag State offices which provide inspection services should be provided to the Organization.*

4.2 FLAG STATE REPORTING

4.2.1 On receiving a report on detention, the flag State and, where appropriate, the RO through the flag State Administration, should, as soon as possible, inform the Organization of remedial action taken in respect of the detention, which may be submitted electronically by the flag State to the Global Integrated Ship Information System (GISIS) or in a format shown in appendix 17.

4.2.2 Relevant telephone numbers and addresses of port State control offices, headquarters and those who provide inspection services should be provided to the Organization.

4.3 REPORTING OF ALLEGATIONS UNDER MARPOL

4.3.1 A report on alleged deficiencies or on alleged contravention of the discharge provisions relating to the provisions of MARPOL should be forwarded to the flag State as soon as possible, preferably no later than 60 days after the observation of the deficiencies or contravention. Such reports may be made in accordance with the format in appendices 13 or 16, as appropriate. If a contravention of the discharge provisions is suspected, then the information should be supplemented by evidence of violations which, as a minimum, should include the information specified in parts 2 and 3 of appendices 3 and 4 of these Procedures.

4.3.2 On receiving a report on alleged deficiencies or alleged contravention of the discharge provisions, the flag State and, where appropriate, the RO through the flag State Administration, should, as soon as possible, inform the Party submitting the report of immediate action taken in respect of the alleged deficiencies or contravention. That Party and the Organization should, upon completion of such action, be informed of the outcome and details, where appropriate, be included in the mandatory annual report to the Organization.

* Such addresses are available in MSC-MEPC.6/Circ.17 (*National contact points for safety and pollution prevention and response*), which may be amended, the IMO Internet home page and the GISIS module on contact points (<http://gisis.imo.org/Public>).

CHAPTER 5 – REVIEW PROCEDURES

5.1 REPORT OF COMMENTS

5.1.1 In the interest of making information regarding deficiencies and remedial measures generally available, a summary of such reports should be made by the Organization in a timely manner in order that the information can be disseminated in accordance with the Organization's procedures to all Parties to the relevant conventions. In the summary of deficiency reports, an indication should be given of flag State action or whether a comment by the flag State concerned is outstanding.

5.1.2 The appropriate committee should periodically evaluate the summary of the deficiency reports in order to identify measures that may be necessary to ensure more consistent and effective application of IMO instruments, paying close attention to the difficulties reported by Parties to the relevant conventions, particularly in respect of developing countries in their capacity as port States.

5.1.3 Recommendations to address such difficulties, when recognized by the appropriate committee, should, where appropriate, be incorporated into the relevant IMO instrument and any modifications relating to the procedures and obligations should be made in the port State documentation.

Appendix 1

**CODE OF GOOD PRACTICE FOR PORT STATE CONTROL OFFICERS
CONDUCTING INSPECTIONS WITHIN THE FRAMEWORK OF THE
REGIONAL MEMORANDA OF UNDERSTANDING AND AGREEMENT
ON PORT STATE CONTROL
(MSC-MEPC.4/Circ.2)**

Introduction

1 This Code provides guidelines regarding the standards of integrity, professionalism and transparency that regional port State control (PSC) regimes expect of all port State control officers (PSCOs) who are involved in or associated with port State control inspections.

Objective

2 The objective of this Code is to assist PSCOs in conducting their inspections to the highest professional level. PSCOs are central to achieving the aims of the regional PSC regime. They are the daily contact with the shipping world. They are expected to act within the law, within the rules of their Government and in a fair, open, impartial and consistent manner.

Fundamental principles of the Code

3 The Code of good practice encompasses three fundamental principles against which all actions of PSCOs are judged: integrity, professionalism and transparency. These are defined as follows:

- .1 integrity is the state of moral soundness, honesty and freedom from corrupting influences or motives;
- .2 professionalism is applying accepted professional standards of conduct and technical knowledge. For PSCOs, standards of behaviour are established by the maritime authority and the general consent of the port State members; and
- .3 transparency implies openness and accountability.

4 The list of the actions and behaviour expected of PSCOs in applying these principles is set out in the annex to this appendix.

5 Adhering to professional standards provides greater credibility to PSCOs and places more significance on their findings.

6 Nothing in the Code shall absolve PSCOs from complying with the specific requirements of the PSC instruments and applicable national laws.

Annex

CODE OF GOOD PRACTICE FOR PORT STATE CONTROL OFFICERS

Actions and behaviour of PSCOs

PSCOs should:

- 1 use their professional judgement in carrying out their duties;

Respect

- 2 remember that a ship is a home as well as a workplace for the ship's personnel and not unduly disturb their rest or privacy;
- 3 comply with any ship housekeeping rules such as removing dirty shoes or work clothes;
- 4 not be prejudiced by the race, gender, religion or nationality of the crew when making decisions and treat all personnel on board with respect;
- 5 respect the authority of the master or their deputy;
- 6 be polite but professional and firm as required;
- 7 never become threatening, abrasive or dictatorial or use language that may cause offence;
- 8 expect to be treated with courtesy and respect;

Conduct of inspections

- 9 comply with all health and safety requirements of the ship and their Administration, e.g. wearing of personal protective clothing, and not take any action or cause any action to be taken which could compromise the safety of the PSCO or the ship's crew;
- 10 comply with all security requirements of the ship and wait to be escorted around the ship by a responsible person;
- 11 present their identity cards to the master or the representative of the owner at the start of the inspection;
- 12 explain the reason for the inspections; however, where the inspection is triggered by a report or complaint they must not reveal the identity of the person making the complaint;
- 13 apply the procedures of PSC and the convention requirements in a consistent and professional way and interpret them pragmatically when necessary;
- 14 not try to mislead the crew, for example by asking them to do things that are contrary to the relevant conventions;

- 15 request the crew to demonstrate the functioning of equipment and operational activities, such as drills, and not make tests themselves;
- 16 seek advice when they are unsure of a requirement or of their findings rather than making an uninformed decision, for example by consulting colleagues, publications, the flag Administration, the recognized organization;
- 17 where it is safe to do so accommodate the operational needs of the port and the ship;
- 18 explain clearly to the master the findings of the inspection and the corrective action required and ensure that the report of inspection is clearly understood;
- 19 issue to the master a legible and comprehensible report of inspection before leaving the ship;

Disagreements

- 20 deal with any disagreement over the conduct or findings of the inspection calmly and patiently;
- 21 advise the master of the complaints procedure in place if the disagreement cannot be resolved within a reasonable time;
- 22 advise the master of the right of appeal and relevant procedures in the case of detention;

Integrity

- 23 be independent and not have any commercial interest in their ports and the ships they inspect or companies providing services in their ports. For example, PSCOs should not be employed, even on an occasional basis, by companies which operate ships in their ports or PSCOs should not have an interest in the repair companies in their ports;
- 24 be free to make decisions based on the findings of their inspections and not on any commercial considerations of the port;
- 25 always follow the rules of their Administrations regarding the acceptance of gifts and favours, e.g. meals on board;
- 26 firmly refuse any attempts of bribery and report any blatant cases to the maritime authority;
- 27 not misuse their authority for benefit, financial or otherwise; and

Updating knowledge

- 28 update their technical knowledge regularly.

Appendix 2

GUIDELINES FOR THE DETENTION OF SHIPS

1 Principles governing rectification of deficiencies or detention of a ship

1.1 In taking a decision concerning the rectification of a deficiency or detention of a ship, the port State control officer (PSCO) will have to take into consideration the results of the more detailed inspection carried out in accordance with paragraph 2.5 of the procedures and guidelines contained in this appendix.

1.2 The PSCO will exercise professional judgement in determining whether to detain the ship until the deficiencies are rectified or to allow the ship to sail with certain deficiencies without unreasonable danger to safety, health, or the environment, having also considered the particular circumstances of the intended voyage.

2 Detention related to minimum safe manning and STCW certification

Before detaining a ship for the reasons of not operating at appropriate established minimum safe manning and STCW certification, the following will have to be considered, giving due regard to the points listed under areas under STCW 1978:

- .1 length and nature of the intended voyage or service;
- .2 whether or not the deficiency poses a danger to ships, persons on board or the environment;
- .3 whether or not appropriate hours of rest for the crew have been recorded and there is evidence that the minimum hours of rest have repeatedly not been kept;
- .4 ship's size and type and equipment provided; and
- .5 nature of cargo.

3 Procedures for the detention of ships of all sizes

3.1 When exercising professional judgement as to whether or not a ship should be detained, the PSCO will apply the following criteria:

- .1 timing: ships which are unsafe to proceed to sea will be detained upon the first inspection, irrespective of the time the ship will stay in port; and
- .2 re-inspection criterion: the ship will be detained if the deficiencies on a ship are sufficiently serious to merit a PSCO returning to the ship to be satisfied that they have been rectified before the ship sails.

3.2 The need for the PSCO to return to the ship classifies the seriousness of the deficiencies.

3.3 When deciding whether the deficiencies found in a ship are sufficiently serious to merit detention, the PSCO should assess whether:

- .1 the ship has relevant, valid documentation; and
- .2 the ship has the crew required in the minimum safe manning document or equivalent.

3.4 During inspection, the PSCO should further assess whether the ship and/or crew, throughout its forthcoming voyage, is able to:

- .1 navigate safely;
- .2 safely handle, carry and monitor the condition of the cargo;
- .3 operate the engine-room safely;
- .4 maintain proper propulsion and steering;
- .5 fight fires effectively in any part of the ship if necessary;
- .6 abandon ship speedily and safely and effect rescue if necessary;
- .7 prevent pollution of the environment;
- .8 maintain adequate stability;
- .9 maintain adequate watertight integrity;
- .10 communicate in distress situations if necessary; and
- .11 provide safe and healthy conditions on board.

3.5 If the result of any of these assessments is negative, taking into account all deficiencies found, the ship should be strongly considered for detention. A combination of deficiencies of a less serious nature may also warrant the detention of the ship.

4 General

The lack of valid certificates as required by the relevant conventions may warrant the detention of ships. However, ships flying the flag of States not a Party to a convention or not having implemented another relevant instrument are not entitled to carry the certificates provided for by the convention or other relevant instrument. Therefore, absence of the required certificates should not by itself constitute a reason to detain these ships; however, in applying the "no more favourable treatment" clause, substantial compliance with the provisions and criteria specified in these Procedures must be required before the ship sails.

5 Detainable deficiencies

To assist the PSCO in the use of these Guidelines, there follows a list of deficiencies, grouped under relevant conventions and/or codes, which are considered to be of such a serious nature that they may warrant the detention of the ship involved. This list is not considered exhaustive, but is intended to give examples of relevant items. However, the detainable deficiencies in the area of STCW 1978, listed below, are the only grounds for detention under this Convention.

Areas under SOLAS 1974

- 1 Failure of proper operation of propulsion and other essential machinery, as well as electrical installations.
- 2 Insufficient cleanliness of engine-room, excess amount of oily-water mixture in bilges, insulation of piping including exhaust pipes in engine-room contaminated by oil, and improper operation of bilge pumping arrangements.
- 3 Failure of the proper operation of emergency generator, lighting, batteries and switches.
- 4 Failure of proper operation of the main and auxiliary steering gear.
- 5 Absence, failure, insufficient capacity or serious deterioration of personal life-saving appliances, survival craft and launching and recovery arrangements (see also MSC.1/Circ.1490/Rev.1).
- 6 Absence, non-compliance or substantial deterioration to the extent that it cannot comply with its intended use of fire detection system, fire alarms, fire-fighting equipment, fixed fire-extinguishing installation, ventilation valves, fire dampers and quick-closing devices.
- 7 Absence, substantial deterioration or failure of proper operation of the cargo deck area fire protection on tankers.
- 8 Absence, non-compliance or serious deterioration of lights, shapes or sound signals.
- 9 Absence or failure of the proper operation of the radio equipment for distress and safety communication.
- 10 Absence or failure of the proper operation of navigation equipment, taking the relevant provisions of SOLAS 1974 regulation V/16.2 into account.
- 11 Absence of corrected navigational charts, and/or all other relevant nautical publications necessary for the intended voyage, taking into account that electronic charts may be used as a substitute for the charts.
- 12 Absence of non-sparking exhaust ventilation for cargo pump-rooms.
- 13 Serious deficiency in the operational requirements listed in appendix 7.
- 14 Number, composition or certification of crew not corresponding with safe manning document.
- 15 Non-implementation or failure to carry out the enhanced survey programme in accordance with SOLAS 1974 regulation XI-1/2 and the International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011 (2011 ESP Code), as amended.
- 16 Absence or failure of a voyage data recorder (VDR), when its use is compulsory.

Areas under the IBC Code

- 1 Transport of a substance not mentioned in the Certificate of Fitness or missing cargo information.
- 2 Missing or damaged high-pressure safety devices.
- 3 Electrical installations not intrinsically safe or not corresponding to the Code requirements.
- 4 Sources of ignition in hazardous locations.
- 5 Contravention of special requirements.
- 6 Exceeding of maximum allowable cargo quantity per tank.
- 7 Insufficient heat protection for sensitive products.
- 8 Pressure alarms for cargo tanks not operable.
- 9 Transport of substances to be inhibited without valid inhibitor certificate.

Areas under the IGC Code

- 1 Transport of a substance not mentioned in the Certificate of Fitness or missing cargo information.
- 2 Missing closing devices for accommodations or service spaces.
- 3 Bulkhead not gastight.
- 4 Defective air locks.
- 5 Missing or defective quick-closing valves.
- 6 Missing or defective safety valves.
- 7 Electrical installations not intrinsically safe or not corresponding to the Code requirements.
- 8 Ventilators in cargo area not operable.
- 9 Pressure alarms for cargo tanks not operable.
- 10 Gas detection plant and/or toxic gas detection plant defective.
- 11 Transport of substances to be inhibited without valid inhibitor certificate.

Areas under LL 1966 and LL PROT 1988

- 1 Significant areas of damage or corrosion, or pitting of plating and associated stiffening in decks and hull affecting seaworthiness or strength to take local loads, unless properly authorized temporary repairs for a voyage to a port for permanent repairs have been carried out.
- 2 A recognized case of insufficient stability.
- 3 The absence of sufficient and reliable information, in an approved form, which by rapid and simple means enables the master to arrange for the loading and ballasting of the ship in such a way that a safe margin of stability is maintained at all stages and at varying conditions of the voyage, and that the creation of any unacceptable stresses in the ship's structure is avoided.
- 4 Absence, substantial deterioration or defective closing devices, hatch closing arrangements and watertight/weathertight doors.
- 5 Overloading.
- 6 Absence of, or impossibility to read, draught marks and/or Load Line Marks.
- 7 The means of freeing water from the deck not in satisfactory or operational condition.

Areas under MARPOL Annex I

- 1 Absence, serious deterioration or failure of proper operation of the oily-water filtering equipment, the oil discharge monitoring and control system or the 15 ppm alarm arrangements.
- 2 Remaining capacity of slop and/or sludge tank insufficient for the intended voyage.
- 3 Oil Record Book not available.
- 4 Unauthorized discharge bypass fitted.
- 5 Failure to meet the requirements of regulation 20.4 or alternative requirements specified in regulation 20.7.
- 6 Oily bilge water and/or oil residue accumulated in machinery spaces.

Areas under MARPOL Annex II

- 1 Absence of Procedures and Arrangements Manual (P and A Manual).
- 2 Cargo is not categorized.
- 3 No Cargo Record Book available.
- 4 Unauthorized discharge bypass fitted.

Areas under MARPOL Annex III and dangerous goods carriage requirements

- 1 Absence of a valid Document of Compliance for carriage of dangerous goods (if required).
- 2 Absence of a Dangerous Cargo Manifest or detailed stowage plan before departure of the ship.
- 3 Stowage and segregation provisions of the IMDG Code chapters 7.1, 7.2, 7.4, 7.5 and 7.6 are not met.
- 4 Ship is carrying dangerous goods not in compliance with the Document of Compliance for carriage of dangerous goods of the ship.
- 5 Ship is carrying damaged or leaking dangerous goods packages.
- 6 Ship's personnel assigned to specific duties related to the cargo are not familiar with those duties, any dangers posed by the cargo and with the measures to be taken in such a context.

Areas under MARPOL Annex IV

- 1 Absence of valid International Sewage Pollution Prevention Certificate.
- 2 Sewage treatment plant not approved and certified by the Administration.
- 3 Failure of sewage treatment plant.
- 4 Ship's personnel not familiar with disposal/discharge requirements of sewage.

Areas under MARPOL Annex V

- 1 Absence of garbage management plan.
- 2 No garbage record book available.
- 3 Ship's personnel not familiar with disposal/discharge requirements of garbage management plan.

Areas under MARPOL Annex VI

- 1 Absence of valid International Air Pollution Prevention Certificate (IAPP Certificate) and where relevant Engine International Air Pollution Prevention Certificates (EIAPP Certificates) and Technical Files.
- 2 A marine diesel engine, with a power output of more than 130 kW, which is installed on board a ship constructed on or after 1 January 2000, or a marine diesel engine having undergone a major conversion on or after 1 January 2000, which does not comply with the NO_x Technical Code 2008, as amended.
- 3 The sulphur content of any fuel oil used on board ships exceeds the limit of 0.5% m/m on and after 1 January 2020.

- 4 The sulphur content of any fuel used on board exceeds 0.1% m/m while operating within a SO_x emission control area as per the provisions of regulation 14.
- 5 Emission reduction by equivalent arrangements are not met.
- 6 An incinerator installed on board the ship on or after 1 January 2000 does not comply with requirements contained in appendix IV to the Annex, or the standard specifications for shipboard incinerators developed by the Organization (resolution MEPC.244(66)).
- 7 Ship's personnel are not familiar with essential procedures regarding the operation of air pollution prevention equipment.
- 8 Absence of valid IEEC (International Energy Efficiency Certificate).
- 9 Absence of a Statement of Compliance related to fuel oil consumption reporting on board.

Areas under STCW 1978

- 1 Failure of seafarers to hold a certificate, to have an appropriate certificate, to have a valid dispensation or to provide documentary proof that an application for an endorsement has been submitted to the Administration.
- 2 Failure to comply with the applicable safe manning requirements of the Administration.
- 3 Failure of navigational or engineering watch arrangements to conform to the requirements specified for the ship by the Administration.
- 4 Absence in a watch of a person qualified to operate equipment essential to safe navigation, safety radiocommunications or the prevention of marine pollution.
- 5 Inability to provide for the first watch at the commencement of a voyage and for subsequent relieving watches persons who are sufficiently rested and otherwise fit for duty.

Areas under AFS 2001

- 1 Absence of a valid International Anti-Fouling System Certificate or a Declaration on Anti-Fouling System.
- 2 Sampling proves it is non-compliant within the port's jurisdiction.

Areas which may not warrant a detention, but where, for example, cargo operations have to be suspended

Failure of the proper operation (or maintenance) of inert gas systems, cargo related gear or machinery should be considered sufficient grounds to stop cargo operation.

Appendix 3

**GUIDELINES FOR INVESTIGATIONS AND INSPECTIONS CARRIED OUT UNDER
MARPOL ANNEX I**

PART 1

INSPECTION OF IOPP CERTIFICATE, SHIP AND EQUIPMENT

1 Ships required to carry an IOPP Certificate

1.1 On boarding and introduction to the master or responsible ship's officer, the port State control officer (PSCO) should examine the International Oil Pollution Prevention Certificate (IOPP Certificate), including the attached Supplement - Record of Construction and Equipment for (ships other than) oil tankers, and the Oil Record Book (ORB). The ORB may be presented in an electronic format. A declaration from the Administration should be viewed in order to accept this electronic record book. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

1.2 The certificate carries the information on the type of ship and the dates of surveys and inspections. As a preliminary check it should be confirmed that the dates of surveys and inspections are still valid. Furthermore, it should be established if the ship carries an oil cargo and whether the carriage of such oil cargo is in conformity with the certificate (see also paragraph 1.11 of the Record of Construction and Equipment for Oil Tankers).

1.3 Through examining the Record of Construction and Equipment, the PSCO may establish how the ship is equipped for the prevention of marine pollution.

1.4 If the certificate is valid and the general impression and visual observations on board confirm a good standard of maintenance, the PSCO should generally confine the inspection to reported deficiencies, if any.

1.5 If, however, the PSCO from general impressions or observations on board has clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate, a more detailed inspection should be initiated.

1.6 The inspection of the engine-room should begin with forming a general impression of the state of the engine-room, the presence of traces of oil in the engine-room bilges and the ship's routine for disposing of oil-contaminated water from the engine-room spaces.

1.7 Next, a closer examination of the ship's equipment as listed in the IOPP Certificate may take place. This examination should also confirm that no unapproved modifications have been made to the ship and its equipment.

1.8 Should any doubt arise as to the maintenance or the condition of the ship or its equipment, then further examination and testing may be conducted as considered necessary. In this respect reference is made to annex 3 to the *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2019* (resolution A.1140(31)), as may be amended.

1.9 The PSCO should bear in mind that a ship may be equipped over and above the requirements of MARPOL Annex I. If such equipment is malfunctioning, the flag State should

be informed. This alone however should not cause a ship to be detained unless the discrepancy presents an unreasonable threat of harm to the marine environment.

1.10 In cases of oil tankers, the inspection should include the cargo tank and pump-room area of the ship and should begin with forming a general impression of the layout of the tanks, the cargoes carried, and the routine of cargo slops disposal.

2 Ships of non-Parties to MARPOL Annex I and other ships not required to carry an IOPP Certificate

2.1 As this category of ships is not provided with an IOPP Certificate, the PSCO should be satisfied with regard to the construction and equipment standards relevant to the ship on the basis of the requirements set out in MARPOL Annex I.

2.2 In all other respects the PSCO should be guided by the procedures for ships referred to in section 1 above.

2.3 If the ship has some form of certification other than the IOPP Certificate, the PSCO may take the form and content of this documentation into account in the evaluation of that ship.

3 Control

In exercising the control functions, the PSCO should use professional judgement to determine whether to detain the ship until any noted deficiencies are corrected or to allow it to sail with certain deficiencies which do not pose an unreasonable threat of harm to the marine environment. In doing this, the PSCO should be guided by the principle that the requirements contained in MARPOL Annex I, in respect of construction and equipment and the operation of ships, are essential for the protection of the marine environment and that departure from these requirements could constitute an unreasonable threat of harm to the marine environment.

PART 2

CONTRAVENTION OF DISCHARGE PROVISIONS

1 Experience has shown that information furnished to the flag State as envisaged in appendix 5 of these Procedures is often inadequate to enable the flag State to cause proceedings to be brought in respect of the alleged violation of the discharge requirements. This appendix is intended to identify information which is often needed by a flag State for the prosecution of such possible violations.

2 It is recommended that, in preparing a port State report on deficiencies, where contravention of the discharge requirements is involved, the authorities of the coastal or port State be guided by the itemized list of possible evidence as shown in part 3 of this appendix. It should be borne in mind in this connection that:

- .1 the report aims to provide the optimal collation of obtainable data; however, even if all the information cannot be provided, as much information as possible should be submitted; and
- .2 it is important for all the information included in the report to be supported by facts which, when considered as a whole, would lead the port or coastal State to believe a contravention had occurred.

3 In addition to the port State report on deficiencies, a report should be completed by a port or coastal State on the basis of the itemized list of possible evidence. It is important that these reports are supplemented by documents such as:

- .1 a statement by the observer of the pollution; in addition to the information required under section 1 of part 3 of this appendix, the statement should include considerations which lead the observer to conclude that none of any other possible pollution sources is in fact the source;
- .2 statements concerning the sampling procedures both of the slick and on board; these should include location where and time when samples were taken, identity of person(s) taking the samples and receipts identifying the persons having custody and receiving transfer of the samples;
- .3 reports of analyses of samples taken of the slick and on board; the reports should include the results of the analyses, a description of the method employed, reference to or copies of scientific documentation attesting to the accuracy and validity of the method employed, and names of persons performing the analyses and their experience;
- .4 a statement by the PSCO on board together with the PSCO's rank and organization;
- .5 statements by persons being questioned;
- .6 statements by witnesses; all observations, photographs and documentation should be supported by a signed verification of their authenticity; all certifications, authentications or verifications shall be executed in accordance with the laws of the State which prepares them; all statements should be signed and dated by the person making the statement and, if possible, by a witness to the signing; the names of the persons signing statements should be printed in legible script above or below the signature;
- .7 photographs of the oil slick; and
- .8 copies or printouts of relevant recordings, etc., pages of ORBs, logbooks, discharge.

4 The report referred to in paragraphs 2 and 3 should be sent to the flag State. If the coastal State observing the pollution and the port State carrying out the investigation on board are not the same, the State carrying out the latter investigation should also send a copy of its findings to the State observing the pollution and requesting the investigation.

PART 3

ITEMIZED LIST OF POSSIBLE EVIDENCE ON ALLEGED CONTRAVENTION OF THE MARPOL ANNEX I DISCHARGE PROVISIONS

1 Action on sighting oil pollution

1.1 Particulars of ship or ships suspected of contravention

- .1 Name of ship
- .2 Reasons for suspecting the ship
- .3 Date and time (UTC) of observation or identification
- .4 Position of ship
- .5 Flag and port of registry
- .6 Type (e.g. tanker, cargo ship, passenger ship, fishing vessel), size (estimated tonnage) and other descriptive data (e.g. superstructure colour and funnel mark)
- .7 Draught condition (loaded or in ballast)
- .8 Approximate course and speed
- .9 Position of slick in relation to ship (e.g. astern, port, starboard)
- .10 Part of the ship from which side discharge was seen emanating
- .11 Whether discharge ceased when ship was observed or contacted by radio

1.2 Particulars of slick

- .1 Date and time (UTC) of observation if different from paragraph 1.1.3
- .2 Position of oil slick in longitude and latitude if different from paragraph 1.1.4
- .3 Approximate distance in nautical miles from the nearest land
- .4 Approximate overall dimension of oil slick (length, width and percentage thereof covered by oil)
- .5 Physical description of oil slick (direction and form, e.g. continuous, in patches or in windrows)
- .6 Appearance of oil slick (indicate categories)
 - Category A: Barely visible under most favourable light condition
 - Category B: Visible as silvery sheen on water surface

- Category C: First trace of colour may be observed
 - Category D: Bright band of colour
 - Category E: Colours begin to turn dull
 - Category F: Colours are much darker
- .7 Sky conditions (bright sunshine, overcast, etc.), lightfall and visibility (kilometres) at the time of observation
- .8 Sea state
- .9 Direction and speed of surface wind
- .10 Direction and speed of current

1.3 Identification of the observer(s)

- .1 Name of observer
- .2 Organization with which observer is affiliated (if any)
- .3 Observer's status within the organization
- .4 Observation made from aircraft/ship/shore/otherwise
- .5 Name or identity of ship or aircraft from which observation was made
- .6 Specific location of ship, aircraft, place on shore or otherwise from which observation was made
- .7 Activity engaged in by observer when observation was made, e.g. patrol, voyage, flight (en route from ... to ...)

1.4 Method of observation and documentation

- .1 Visual
- .2 Conventional photographs
- .3 Remote sensing records and/or remote sensing photographs
- .4 Samples taken from slick
- .5 Any other form of observation (specify)

Note: A photograph of the discharge should preferably be in colour. Photographs can provide the following information: that a material on the sea surface is oil; that the quantity of oil discharged does constitute a violation of the Convention; that the oil is being, or has been, discharged from a particular ship; and the identity of the ship.

Experience has shown that the aforementioned can be obtained with the following three photographs:

- details of the slick taken almost vertically down from an altitude of less than 300 m with the sun behind the photographer;
- an overall view of the ship and slick showing oil emanating from a particular ship; and
- details of the ship for the purposes of identification.

1.5 Other information if radio contact can be established

- .1 Master informed of pollution
- .2 Explanation of master
- .3 Ship's last port of call
- .4 Ship's next port of call
- .5 Name of ship's master and owner
- .6 Ship's call sign

2 Investigation on board

2.1 Inspection of IOPP Certificate

- .1 Name of ship
- .2 Distinctive number or letters
- .3 Port of registry
- .4 Type of ship
- .5 Date and place of issue
- .6 Date and place of endorsement

Note: If the ship is not issued an IOPP Certificate, as much as possible of the requested information should be given.

2.2 Inspection of Supplement of the IOPP Certificate

- .1 Applicable paragraphs of sections 2, 3, 4, 5 and 6 of the Supplement (non-oil tankers)
- .2 Applicable paragraphs of sections 2, 3, 4, 5, 6, 7, 8, 9 and 10 of the Supplement (oil tankers)

Note: If the ship does not have an IOPP Certificate, a description should be given of the equipment and arrangements on board, designed to prevent marine pollution.

2.3 Inspection of Oil Record Book (ORB)

- .1 Copy or print out sufficient pages of the ORB – part I to cover a period of 30 days prior to the reported incident.
- .2 Copy or print out sufficient pages of the ORB – part II (if on board) to cover a full loading/unloading/ballasting and tank cleaning cycle of the ship. Also a copy of the tank diagram.

2.4 Inspection of logbook

- .1 Last port, date of departure, draught forward and aft
- .2 Current port, date of arrival, draught forward and aft
- .3 Ship's position at or near the time the incident was reported
- .4 Spot check if positions mentioned in the logbook agree with positions noted in the ORB

2.5 Inspection of other documentation on board

Other documentation relevant for evidence (if necessary, make copies) such as:

- recent ullage sheets
- records of monitoring and control equipment.

2.6 Inspection of ship

- .1 Ship's equipment in accordance with the Supplement of the IOPP Certificate
- .2 Samples taken. State location on board
- .3 Traces of oil in vicinity of overboard discharge outlets
- .4 Condition of engine-room and contents of bilges
- .5 Condition of oily water separator, filtering equipment and alarm, stopping or monitoring arrangements
- .6 Contents of sludge and/or holding tanks
- .7 Sources of considerable leakage on oil tankers.

The following additional evidence may be pertinent:

- .8 Oil on surface of segregated or dedicated clean ballast
- .9 Condition of pump-room bilges
- .10 Condition of crude oil washing (COW) system
- .11 Condition of inert gas (IG) system
- .12 Condition of monitoring and control system
- .13 Slop tank contents (estimate quantity of water and of oil)

2.7 Statements of persons concerned

If the ORB – part I has not been properly completed, information on the following questions may be pertinent:

- .1 Was there a discharge (accidental or intentional) at the time indicated on the incident report?
- .2 Is the bilge discharge controlled automatically?
- .3 If so, at what time was this system last put into operation and at what time was this system last put on manual mode?
- .4 If not, what were the date and time of the last bilge discharge?
- .5 What was the date of the last disposal of residue and how was disposal effected?
- .6 Is it usual to effect discharge of bilge water directly to the sea, or to store bilge water first in a collecting tank? Identify the collecting tank.
- .7 Have oil fuel tanks recently been used as ballast tanks?

If the ORB – part II has not been properly completed, information on the following questions may be pertinent:

- .8 What was the cargo/ballast distribution in the ship on departure from the last port?
- .9 What was the cargo/ballast distribution in the ship on arrival in the current port?
- .10 When and where was the last loading effected?
- .11 When and where was the last unloading effected?
- .12 When and where was the last discharge of dirty ballast?
- .13 When and where was the last cleaning of cargo tanks?

- .14 When and where was the last COW operation and which tanks were washed?
- .15 When and where was the last decanting of slop tanks?
- .16 What is the ullage in the slop tanks and the corresponding height of interface?
- .17 Which tanks contained the dirty ballast during the ballast voyage (if ship arrived in ballast)?
- .18 Which tanks contained the clean ballast during the ballast voyage (if ship arrived in ballast)?

In addition, the following information may be pertinent:

- .19 Details of the present voyage of the ship (previous ports, next ports, trade)
- .20 Contents of oil fuel and ballast tanks
- .21 Previous and next bunkering, type of oil fuel
- .22 Availability or non-availability of reception facilities for oily wastes during the present voyage
- .23 Internal transfer of oil fuel during the present voyage

In the case of oil tankers, the following additional information may be pertinent:

- .24 The trade the ship is engaged in, such as short/long distance, crude or product or alternating crude/product, lightering service, oil/dry bulk
- .25 Which tanks are clean and dirty
- .26 Repairs carried out or envisaged in cargo tanks

Miscellaneous information:

- .27 Comments in respect of condition of ship's equipment
- .28 Comments in respect of pollution report
- .29 Other comments

3 Investigation ashore

3.1 Analyses of oil samples

Indicate method and results of the samples' analyses.

3.2 Further information

Additional information on the ship, obtained from oil terminal staff, tank cleaning contractors or shore reception facilities may be pertinent.

Note: Any information under this heading is, if practicable, to be corroborated by documentation such as signed statements, invoices, receipts.

4 Information not covered by the foregoing

5 Conclusion

- .1 Summing up of the investigator's technical conclusions.
- .2 Indication of applicable provisions of MARPOL Annex I which the ship is suspected of having contravened.
- .3 Did the results of the investigation warrant the filing of a deficiency report?

PART 4

GUIDELINES FOR IN-PORT INSPECTION OF CRUDE OIL WASHING PROCEDURES

1 Preamble

1.1 *Guidelines for the in-port inspection of crude oil washing (COW) procedures*, as called for by resolution 7 of the International Conference on Tanker Safety and Pollution Prevention, 1978, are required to provide a uniform and effective control of crude oil washing to ensure compliance of ships at all times with the provisions of MARPOL.

1.2 The design of the crude oil washing installation is subject to the approval of the flag Administration. However, although the operational aspect of crude oil washing is also subject to the approval of the same Administration, it might be necessary for a port State authority to see to it that continuing compliance with agreed procedures and parameters is ensured.

1.3 The COW Operations and Equipment Manual has been so specified that it contains all the necessary information relating to the operation of crude oil washing on a particular tanker. The objectives of the inspection would then be to ensure that the provisions of the Manual dealing with safety procedures and with pollution prevention are being strictly adhered to.

1.4 The method of the inspection is at the discretion of the port State authority and may cover the entire operation or only those parts of the operation which occur when the PSCO is on board.

1.5 Inspection will be governed by articles 5 and 6 of MARPOL.

2 Inspections

2.1 A port State should make the appropriate arrangements so as to ensure compliance with requirements governing the crude oil washing of oil tankers. This is not, however, to be construed as relieving terminal operators and shipowners of their obligations to ensure that the operation is undertaken in accordance with the regulations.

2.2 The inspection may cover the entire operation of crude oil washing or only certain aspects of it. It is thus in the interest of all concerned that the ship's records with regard to the COW operations are maintained at all times so that a PSCO may verify those operations undertaken prior to the inspection.

3 Ship's personnel

3.1 The person in charge and the other nominated persons who have responsibility in respect of the crude oil washing operation should be identified. They must, if required, be able to show that their qualifications meet the requirements, as appropriate, of paragraphs 5.2 and 5.3 of the *Revised specifications for the design, operation and control of crude oil washing systems* (resolution A.446(XI)), as amended.

3.2 The verification may be accomplished by reference to the individual's discharge papers, testimonials issued by the ship's operator or by certificates issued by a training centre approved by an Administration. The numbers of such personnel should be at least as stated in the Manual.

4 Documentation

The following documents should be available for inspection:

- .1 the IOPP Certificate and the Record of Construction and Equipment, to determine:
 - .1 whether the ship is fitted with a crude oil washing system as required in regulation 33 of MARPOL Annex I;
 - .2 whether the crude oil washing system is according to and complying with the requirements of regulations 33 and 35 of MARPOL Annex I;
 - .3 the validity and date of the Operations and Equipment Manual; and
 - .4 the validity of the Certificate;
- .2 the approved Manual;
- .3 the ORB; and
- .4 the Cargo Ship Safety Equipment Certificate to confirm that the inert gas system conforms to regulations contained in chapter II-2 of SOLAS 1974.

5 Inert gas system

5.1 Inert gas system regulations require that instrumentation shall be fitted for continuously indicating and permanently recording at all times when inert gas is being supplied, the pressure and the oxygen content of the gas in the inert gas supply main. Reference to the permanent recorder would indicate if the system had been operating before and during the cargo discharge in a satisfactory manner.

5.2 If conditions specified in the Manual are not being met then the washing must be stopped until satisfactory conditions are restored.

5.3 As a further precautionary measure, the oxygen level in each tank to be washed is to be determined at the tank. The meters used should be calibrated and inspected to ensure that they are in good working order. Readings from tanks already washed in port prior to inspection should be available for checking. Spot checks on readings may be instituted.

6 Electrostatic generation

It should be confirmed either from the cargo log or by questioning the person in charge that the presence of water in the crude oil is being minimized as required by paragraph 6.7 of the revised *Specifications for the design, operation and control of crude oil washing systems* (resolution A.446(XI)), as amended.

7 Communication

It should be established that effective means of communication exist between the person in charge and the other persons concerned with the COW operation.

8 Leakage on deck

PSCOs should ensure that the COW piping system has been operationally tested for leakage before cargo discharge and that the test has been noted in the ship's ORB.

9 Exclusion of oil from engine-room

It should be ascertained that the method of excluding cargo oil from the machinery space is being maintained by inspecting the isolating arrangements of the tank washing heater (if fitted) or of any part of the tank washing system which enters the machinery space.

10 Suitability of the crude oil

In judging the suitability of the oil for crude oil washing, the guidance and criteria contained in section 9 of the COW Operations and Equipment Manual should be taken into account.

11 Checklist

It should be determined from the ship's records that the pre-crude oil wash operational checklist was carried out and all instruments functioned correctly. Spot checks on certain items may be instituted.

12 Wash programmes

12.1 Where the tanker is engaged in a multiple port discharge, the ORB would indicate if tanks were crude oil washed at previous discharge ports or at sea. It should be determined that all tanks which will or may be used to contain ballast on the forthcoming voyage will be crude oil washed before the ship departs from the port. There is no obligation to wash any tank other than ballast tanks at a discharge port except that each of these other tanks must be washed at least in accordance with paragraph 6.1 of the revised *Specifications for the design, operation and control of crude oil washing systems* (resolution A.446(XI)), as amended. The ORB should be inspected to check that this is being complied with.

12.2 All crude oil washing must be completed before a ship leaves its final port of discharge.

12.3 If tanks are not being washed in one of the preferred orders given in the Manual, the PSCO should determine that the reason for this and the proposed order of tank washing are acceptable.

12.4 For each tank being washed it should be ensured that the operation is in accordance with the Manual in that:

- .1 the deck mounted machines and the submerged machines are operating either by reference to indicators, the sound patterns or other approved methods;
- .2 the deck mounted machines, where applicable, are programmed as stated;
- .3 the duration of the wash is as required; and
- .4 the number of tank washing machines being used simultaneously does not exceed that specified.

13 Stripping of tanks

13.1 The minimum trim conditions and the parameters of the stripping operations are to be stated in the Manual.

13.2 All tanks which have been crude oil washed are to be stripped. The adequacy of the stripping is to be checked by hand dipping at least in the aftermost hand dipping location in each tank or by such other means provided and described in the Manual. It should be ascertained that the adequacy of stripping has been checked or will be checked before the ship leaves its final port of discharge.

14 Ballasting

14.1 Tanks that were crude oil washed at sea will be recorded in the ORB. These tanks must be left empty between discharge ports for inspection at the next discharge port. Where these tanks are the designated departure ballast tanks they may be required to be ballasted at a very early stage of the discharge. This is for operational reasons and also because they must be ballasted during cargo discharge, if hydrocarbon emission is to be contained on the ship. If these tanks are to be inspected when empty, then this must be done shortly after the tanker berths. If a PSCO arrives after the tanks have begun accepting ballast, then the sounding of the tank bottom would not be available. However, an examination of the surface of the ballast water is then possible. The thickness of the oil film should not be greater than that specified in paragraph 4.2.10(b) of the revised *Specifications for the design, operation and control of crude oil washing systems* (resolution A.446(XI)), as amended.

14.2 The tanks that are designated ballast tanks will be listed in the Manual. It is, however, left to the discretion of the master or responsible officer to decide which tanks may be used for ballast on the forthcoming voyage. It should be determined from the ORB that all such tanks have been washed before the tanker leaves its last discharge port. It should be noted that where a tanker back-loads a cargo of crude oil at an intermediate port into tanks designated for ballast, then it should not be required to wash those tanks at that particular port but at a subsequent port.

14.3 It should be determined from the ORB that additional ballast water has not been put into tanks which have not been crude oil washed during previous voyages.

14.4 It should be verified that the departure ballast tanks are stripped as completely as possible. Where departure ballast is filled through cargo lines and pumps these must be stripped either into another cargo tank or ashore by the special small diameter line provided for this purpose.

14.5 The methods to avoid vapour emission where locally required will be provided in the Manual and they must be adhered to. The PSCO should ensure that this is being complied with.

14.6 The typical procedures for ballasting listed in the Manual must be observed. The PSCO should ensure this is being complied with.

14.7 When departure ballast is to be shifted, the discharge into the sea must be in compliance with regulations 15 and 34 of MARPOL Annex I. The ORB should be inspected to ensure that the ship is complying with this.

Appendix 4

**GUIDELINES FOR INVESTIGATIONS AND INSPECTIONS CARRIED OUT
UNDER MARPOL ANNEX II**

PART 1

INSPECTION OF CERTIFICATE (COF OR NLS CERTIFICATE), SHIP AND EQUIPMENT

1 Ships required to hold a Certificate

1.1 On boarding and after introducing themselves to the master or responsible ship's officer, the port State control officer (PSCO) should examine the Certificate of Fitness (COF) or NLS Certificate and Cargo Record Book (CRB). The CRB may be presented in an electronic format. A declaration from the Administration should be viewed in order to accept this electronic record book. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

1.2 The Certificate includes information on the type of ship, the dates of surveys and a list of the products which the ship is certified to carry.

1.3 As a preliminary check, the Certificate's validity should be confirmed by verifying that the Certificate is properly completed and signed and that required surveys have been performed. In reviewing the Certificate, particular attention should be given to verifying that only those noxious liquid substances which are listed on the Certificate are carried and that these substances are in tanks approved for their carriage.

1.4 The CRB should be inspected to ensure that the records are up to date. The PSCO should check whether the ship left the previous port(s) with residues of noxious liquid substances on board which could not be discharged into the sea. The book could also have relevant entries from the appropriate authorities in the previous ports. If the examination reveals that the ship was permitted to sail from its last unloading port under certain conditions, the PSCO should ascertain that such conditions have been or will be adhered to. If the PSCO discovers an operational violation in this respect, the flag State should be informed by means of a deficiency report.

1.5 If the Certificate is valid and the PSCO's general impressions and visual observations on board confirm a good standard of maintenance, the PSCO should, provided that the CRB entries do not show any operational violations, confine the inspection to reported deficiencies, if any.

1.6 If, however, the PSCO's general impressions or observations on board show clear grounds for believing that the condition of the ship, its equipment, or its cargo and slops handling operations do not correspond substantially with the particulars of the Certificate, the PSCO should proceed to a more detailed inspection:

- .1 Initially this requires an examination of the ship's approved Procedures and Arrangements Manual (P and A Manual).
- .2 The more detailed inspection should include the cargo and pump-room areas of the ship and should begin with forming a general impression of the layout of the tanks, the cargoes carried, pumping and stripping conditions and cargo.

- .3 Next, a closer examination of the ship's equipment as shown in the P and A Manual may take place. This examination should also confirm that no unapproved modifications have been made to the ship and its equipment.
- .4 Should any doubt arise as to the maintenance or the condition of the ship or its equipment, further examination and testing may be conducted as may be necessary. In this respect reference is made to the *Survey Guidelines under the Harmonized System of Survey and Certification, 2019* (resolution A.1140(31)), as may be amended.

1.7 The PSCO should bear in mind that a ship may be equipped over and above the requirements of MARPOL Annex II. If such equipment is malfunctioning the flag State should be informed. This alone, however, should not cause a ship to be detained unless the malfunction presents an unreasonable threat of harm to the marine environment.

2 Ships of non-Parties to the Convention

2.1 As this category of ship is not provided with a COF or NLS Certificate as required by MARPOL Annex II, the PSCO should be satisfied with regard to the construction and equipment standards relevant to the ship on the basis of the requirements set out in MARPOL Annex II and the Standards for Procedures and Arrangements.

2.2 In all other respects, the PSCO should be guided by the procedures for ships referred to in section 1 above (i.e. ships required to hold a Certificate).

2.3 If the ship has some form of certification other than the required Certificate, the PSCO may take the form and content of this document into account in the evaluation of that ship. Such a form of certification, however, is only of value to the PSCO if the ship has been provided with a P and A Manual.

3 Control

In exercising the control functions, the PSCO should use professional judgement to determine whether to detain the ship until any noted deficiencies are rectified or to allow it to sail with certain deficiencies which do not pose an unreasonable threat of harm to the marine environment. In doing this, the PSCO should be guided by the principle that the requirements contained in MARPOL Annex II, in respect of construction and equipment and the operation of ships, are essential for the protection of the marine environment and that departure from these requirements could constitute an unreasonable threat of harm to the marine environment.

PART 2

CONTRAVENTION OF DISCHARGE PROVISIONS

1 With illegal discharges, past experience has shown that information furnished to the flag State is often inadequate to enable the flag State to cause proceedings to be brought in respect of the alleged violation of the discharge requirements. This appendix is intended to identify information which will be needed by a flag State for the prosecution of violations of the discharge provisions under MARPOL Annex II.

2 It is recommended that in preparing a port State report on deficiencies, where contravention of the discharge requirements is involved, the authorities of a coastal or port State should be guided by the itemized list of possible evidence as shown in part 3 of this appendix. It should be borne in mind in this connection that:

- .1 the report aims to provide the optimal collation of obtainable data; however, even if all the information cannot be provided, as much information as possible should be submitted;
- .2 it is important for all the information included in the report to be supported by facts which, when considered as a whole, would lead the port or coastal State to believe a contravention has occurred; and
- .3 the discharge may have been oil, in which case part 2 to appendix 3 of this resolution applies (Guidelines for investigation and inspections carried out under MARPOL Annex I).

3 In addition to the port State report on deficiencies, a report should be completed by a port or coastal State, on the basis of the itemized list of possible evidence. It is important that these reports are supplemented by documents such as:

- .1 a statement by the observer of the pollution; in addition to the information required under section 1 of part 3 of this appendix, the statement should include considerations which have led the observer to conclude that none of any other possible pollution sources is in fact the source;
- .2 statements concerning the sampling procedures both of the slick and on board; these include location where and time when samples were taken, identity of person(s) taking the samples and receipts identifying the persons having custody and receiving transfer of the samples;
- .3 reports of analyses of samples taken of the slick and on board; the reports should include the results of the analyses, a description of the method employed, reference to or copies of scientific documentation attesting to the accuracy and validity of the method employed and names of persons performing the analyses and their experience;
- .4 a statement by the PSCO on board together with the PSCO's rank and organization;
- .5 statements by persons being questioned;
- .6 statements by witnesses;
- .7 photographs of the slick; and
- .8 copies or printouts of relevant pages of the CRB, logbooks, discharge recordings, etc.

4 All observations, photographs and documentation should be supported by a signed verification of their authenticity. All certifications, authentications or verifications shall be executed in accordance with the laws of the State which prepares them. All statements should be signed and dated by the person making the statement and, if possible, by a witness to the signing. The names of the persons signing statements should be printed in legible script above or below the signature.

5 The report referred to in paragraphs 2 and 3 should be sent to the flag State. If the coastal State observing the pollution and the port State carrying out the investigation on board are not the same, the State carrying out the latter investigation should also send a copy of its findings to the State observing the pollution and requesting the investigation.

PART 3

ITEMIZED LIST OF POSSIBLE EVIDENCE ON ALLEGED CONTRAVENTION OF THE MARPOL ANNEX II DISCHARGE PROVISIONS

1 Action on sighting pollution

1.1 Particulars of ship or ships suspected of contravention

- .1 Name of ship and IMO Number
- .2 Reasons for suspecting the ship
- .3 Date and time (UTC) of observation or identification
- .4 Position of ship
- .5 Flag and port of registry
- .6 Type, size (estimated tonnage) and other descriptive data (e.g. superstructure, colour and funnel mark)
- .7 Draught condition (loaded or in ballast)
- .8 Approximate course and speed
- .9 Position of slick in relation to ship (e.g. astern, port, starboard)
- .10 Part of the ship from which discharge was seen emanating
- .11 Whether discharge ceased when ship was observed or contacted by radio

1.2 Particulars of slick

- .1 Date and time (UTC) of observation if different from item 1.1.3
- .2 Position of slick in longitude and latitude if different from item 1.1.4
- .3 Approximate distance in nautical miles from the nearest land
- .4 Depth of water according to sea chart
- .5 Approximate overall dimension of slick (length, width and percentage thereof covered)
- .6 Physical description of slick (direction and form, e.g. continuous, in patches or in windrows)

- .7 Colour of slick
- .8 Sky conditions (bright sunshine, overcast, etc.), lightfall and visibility (km) at the time of observation
- .9 Sea state
- .10 Direction and speed of surface wind
- .11 Direction and speed of current

1.3 Identification of the observer(s)

- .1 Name of observer
- .2 Organization with which observer is affiliated (if any)
- .3 Observer's status within the organization
- .4 Observation made from aircraft, ship, shore or otherwise
- .5 Name or identity of ship or aircraft from which observation was made
- .6 Specific location of ship, aircraft, place on shore or otherwise from which observation was made
- .7 Activity engaged in by observer when observation was made, e.g. patrol, voyage, flight (en route from ... to ...)

1.4 Method of observation and documentation

- .1 Visual
- .2 Conventional photographs
- .3 Remote sensing records and/or remote sensing photographs
- .4 Samples taken from slick
- .5 Any other form of observation (specify)

Note: A photograph of the discharge should preferably be in colour. The best results may be obtained with the following three photographs:

- details of the slick taken almost vertically down from an altitude of less than 300 metres with the sun behind the photographer;
- an overall view of the ship and slick showing a substance emanating from the particular ship; and
- details of the ship for the purposes of identification.

1.5 Other information if radio contact can be established

- .1 Master informed of pollution
- .2 Explanation of master
- .3 Ship's last port of call
- .4 Ship's next port of call
- .5 Name of ship's master and owner
- .6 Ship's call sign

2 Investigation on board

2.1 Inspection of the Certificate (COF or NLS Certificate)

- .1 Name of ship and IMO Number
- .2 Distinctive number or letters
- .3 Port of registry
- .4 Type of ship
- .5 Date and place of issue
- .6 Date and place of endorsement
- .7 List of Annex II substances the ship is certified to carry
- .8 Limitation as to tanks in which these substances may be carried

2.2 Inspection of P and A Manual

- .1 Ship equipped with an efficient stripping system
- .2 Residue quantities established at survey

2.3 Inspection of CRB

Copy or print out sufficient pages of the CRB to cover a full loading/unloading/ballasting and tank cleaning cycle of the ship. Also copy the tank diagram.

2.4 Inspection of logbook

- .1 Last port, date of departure, draught forward and aft
- .2 Current port, date of arrival, draught forward and aft
- .3 Ship's position at or near the time the incident was reported

- .4 Spot check if times entered in the CRB in respect of discharges correspond with sufficient distance from the nearest land, the required ship's speed and with sufficient water depth

2.5 Inspection of other documentation on board

Other documentation relevant for evidence (if necessary make copies) such as:

- cargo documents of cargo presently or recently carried, together with relevant information on required unloading temperature, viscosity and/or melting point;
- records of temperature of substances during unloading; and
- records of monitoring equipment if fitted.

2.6 Inspection of ship

- .1 Ship's equipment in accordance with the P and A Manual
- .2 Samples taken; state location on board
- .3 Sources of considerable leakage
- .4 Cargo residues on surface of segregated or dedicated clean ballast
- .5 Condition of pump-room bilges
- .6 Condition of monitoring system
- .7 Slop tank contents (estimate quantity of water and residues)

2.7 Statements of persons concerned (if the CRB has not been properly completed, information on the following questions may be pertinent)

- .1 Was there a discharge (accidental or intentional) at the time indicated on the incident report?
- .2 Which tanks are going to be loaded in the port?
- .3 Which tanks needed cleaning at sea? Had the tanks been prewashed?
- .4 When and where were these cleaned?
- .5 Residues of which substances were involved?
- .6 What was done with the tank washing slops?
- .7 Was the slop tank, or cargo tank used as a slop tank, discharged at sea?
- .8 When and where was the discharge effected?
- .9 What are the contents of the slop tank or cargo tank used as slop tank?

- .10 Which tanks contained the dirty ballast during the ballast voyage (if ship arrived in ballast)?
- .11 Which tanks contained the clean ballast during the ballast voyage (if ship arrived in ballast)?
- .12 Details of the present voyage of the ship (previous ports, next ports, trade)
- .13 Difficulties experienced with discharge to shore reception facilities
- .14 Difficulties experienced with efficient stripping operations
- .15 Which tanks are clean or dirty on arrival?
- .16 Repairs carried out or envisaged in cargo tanks

Miscellaneous information

- .17 Comments in respect of condition of ship's equipment
- .18 Comments in respect of pollution report
- .19 Other comments

3 Investigation ashore

3.1 Analyses of samples

Indicate method and results of the samples' analyses.

3.2 Further information

Additional information on the ship, obtained from terminal staff, tank cleaning contractors or shore reception facilities, may be pertinent.

Note: Any information under this heading is, if practicable, to be corroborated by documentation such as signed statements, invoices, receipts.

3.3 Information from previous unloading port terminal

- .1 Confirmation that the ship was unloaded, stripped or prewashed in accordance with its P and A Manual
- .2 The nature of difficulties if any
- .3 Restrictions by authorities under which the ship was permitted to sail
- .4 Restrictions in respect of shore reception facilities

4 Information not covered by the foregoing

5 Conclusion

- .1 Summing up of the investigator's conclusions
- .2 Indication of applicable provisions of MARPOL Annex II which the ship is suspected of having contravened
- .3 Did the results of the investigation warrant the filing of a deficiency report?

PART 4

PROCEDURES FOR INSPECTION OF UNLOADING, STRIPPING AND PREWASHING OPERATIONS (MAINLY IN UNLOADING PORTS)

1 Introduction

The PSCO or the surveyor authorized by the Administration exercising control in accordance with regulation 16 of MARPOL Annex II should be thoroughly acquainted with MARPOL Annex II and the custom of the port as of relevance to cargo handling, tank washing, cleaning berths, prohibition of lighters alongside, etc.

2 Documentation

The documentation required for the inspection referred to in this appendix consists of:

- .1 COF or NLS Certificate;
- .2 cargo plan and shipping document;
- .3 P and A Manual; and
- .4 CRB.

3 Information by ship's staff

3.1 Of relevance to the PSCO or the surveyor appointed or authorized by the Administration is the following:

- .1 the intended loading and unloading programme of the ship;
- .2 whether unloading and stripping operations can be effected in accordance with the P and A Manual and if not the reason why it cannot be done;
- .3 the constraints, if any, under which the efficient stripping system operates (i.e. back pressure, ambient air temperature, malfunctioning, etc.); and
- .4 whether the ship requests an exemption from the prewashing and the discharge of residues in the unloading port.

3.2 When tank washing is required without the use of water the PSCO or the surveyor appointed or authorized by the Administration is to be informed about the tank washing procedure and disposal of residues.

3.3 When the CRB is not up to date, any information on prewash and residue disposal operations outstanding should be supplied.

4 Information from terminal staff

Terminal staff should supply information on limitations imposed upon the ship in respect of back pressure and/or reception facilities.

5 Control

5.1 On boarding and introduction to the master or responsible ship officers, the PSCO or the surveyor appointed or authorized by the Administration should examine the necessary documentation.

5.2 The documentation may be used to establish the following:

- .1 noxious liquid substances to be unloaded, their categories and stowage (cargo plan, P and A Manual);
- .2 details of efficient stripping system, if fitted (P and A Manual);
- .3 tanks which require prewashing with disposal of tank washings to reception facilities (shipping document and cargo temperature);
- .4 tanks which require prewashing with disposal of tank washings either to reception facilities or into the sea (P and A Manual, shipping document and cargo temperature);
- .5 prewash operations and/or residue disposal operations outstanding (CRB); and
- .6 tanks which may not be washed with water due to the nature of substances involved (P and A Manual).

5.3 In respect of the prewash operations referred to under paragraph 5.2, the following information is of relevance (P and A Manual):

- .1 pressure required for tank washing machines;
- .2 duration of one cycle of the tank washing machine and quantity of water used;
- .3 washing programmes for the substances involved;
- .4 required temperature of washing water; and
- .5 special procedures.

5.4 The PSCO or the surveyor authorized by the Administration, in accordance with regulation 16 of MARPOL Annex II, should ascertain that unloading, stripping and/or prewash operations are carried out in conformity with the information obtained in accordance with paragraph 2 (Documentation) of this part. If this cannot be achieved, alternative measures should be taken to ensure that the ship does not proceed to sea with more than the quantities of residue specified in regulation 12 of MARPOL Annex II, as applicable. If the residue quantities cannot be reduced by alternative measures the PSCO or the surveyor appointed or authorized by the Administration should inform the port State Administration.

5.5 Care should be taken to ensure that cargo hoses and piping systems of the terminal are not drained back to the ship.

5.6 If a ship is exempted from certain pumping efficiency requirements under regulation 4.4 of MARPOL Annex II or requests an exemption from certain stripping or prewashing procedures under regulation 13.4 of MARPOL Annex II, the conditions for such exemption set out in the said regulations should be observed. These concern:

- .1 regulations 4.2 and 4.3: the ship is constructed before 1 July 1986 and is exempted from the requirement for reducing its residue quantities to specified limits of regulation 12 (i.e. category X or Y substances 300 litres and category Z substances 900 litres); this is subject to the conditions of regulation 4.3 that whenever a cargo tank is to be washed or ballasted, a prewash is required with disposal of prewash slops to shore reception facilities; the COF or NLS Certificate should have been endorsed to the effect that the ship is solely engaged in restricted voyages;
- .2 regulation 4.4: the ship is never required to ballast its cargo tanks and tank washing is only required for repair or dry-docking; the COF or NLS Certificate should indicate the particulars of the exemption; each cargo tank should be certified for the carriage of only one named substance;
- .3 regulation 13.4.1: cargo tanks will not be washed or ballasted prior to the next loading;
- .4 regulation 13.4.2: cargo tanks will be washed and prewash slops will be discharged to reception facilities in another port; it should be confirmed in writing that an adequate reception facility is available at that port for such purpose; and
- .5 regulation 13.4.3: the cargo residues can be removed by ventilation.

5.7 The PSCO or the surveyor appointed or authorized by the Administration must endorse the CRB under section J whenever an exemption under regulation 13.4 referred to in paragraph 5.6 above has been granted, or whenever a tank having unloaded category X substances has been prewashed in accordance with the P and A Manual.

5.8 Alternatively, for category X substances, regulation 13.6.1.1 of MARPOL Annex II, residual concentration should be measured by the procedures which each port State authorizes. In this case the PSCO or the surveyor authorized by the Administration must endorse in the CRB under section K whenever the required residual concentration has been achieved.

5.9 In addition to paragraph 5.7 above, the PSCO or the surveyor authorized by the Administration shall endorse the CRB whenever the unloading, stripping or prewash of category Y and Z substances, in accordance with the P and A Manual, has actually been witnessed.

Appendix 5

**GUIDELINES FOR DISCHARGE REQUIREMENTS UNDER
MARPOL ANNEXES I AND II**

1 Introduction

1.1 Regulations 15 and 34 of MARPOL Annex I prohibit the discharge into the sea of oil and regulation 13 of Annex II prohibits the discharge into the sea of noxious liquid substances except under precisely defined conditions. A record of these operations shall be completed, where appropriate, in the form of an Oil or Cargo Record Book as applicable and shall be kept in such a place as to be readily available for inspection at all reasonable times.

1.2 The regulations referred to above provide that whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a ship or of its wake, a Party should, to the extent that it is reasonably able to do so, promptly investigate the facts bearing on the issue of whether or not there has been a violation of the discharge provisions.

1.3 The conditions under which noxious liquid substances are permitted to be discharged into the seas include quantity, quality and position limitations, which depend on category of substance and sea area.

1.4 An investigation into an alleged contravention should therefore aim to establish whether a noxious liquid substance has been discharged and whether the operations leading to that discharge were in accordance with the ship's Procedures and Arrangements Manual (P and A Manual).

1.5 Recognizing the likelihood that many of the violations of the discharge provisions will take place outside the immediate control and knowledge of the flag State, article 6 of MARPOL provides that Parties shall cooperate in the detection of violations and the enforcement of the provisions using all appropriate and practicable measures of detection and environmental monitoring, and adequate procedures for reporting and gathering evidence. MARPOL also contains a number of more specific provisions designed to facilitate that cooperation.

1.6 Several sources of information about possible violations of the discharge provisions can be indicated. These include:

- .1 reports by masters: article 8 and Protocol I of MARPOL require, inter alia, a ship's master to report certain incidents involving the discharge or the probability of a discharge of oil or oily mixtures, or noxious liquid substances or mixtures containing such substances;
- .2 reports by official bodies: article 8 of MARPOL requires furthermore that a Party issue instructions to its maritime inspection vessels and aircraft and to other appropriate services to report to its authorities incidents involving the discharge or the probability of a discharge of oil or oily mixtures, or noxious liquid substances or mixtures containing such substances;
- .3 reports by other Parties: article 6 of MARPOL provides that a Party may request another Party to inspect a ship; the Party making the request shall supply sufficient evidence that the ship has discharged oil or oily mixtures, noxious liquid substances or mixtures containing such substances, or that the ship has departed from the unloading port with residues of noxious liquid substances in excess of those permitted to be discharged into the sea; and

- .4 reports by others: it is not possible to list exhaustively all sources of information concerning alleged contravention of the discharge provisions; Parties should take all circumstances into account when deciding upon investigating such reports.

1.7 Action which can be taken by States other than the flag or port States that have information on discharge violations (hereinafter referred to as coastal States):

- .1 coastal States that are Parties to MARPOL, upon receiving a report of pollution by oil or noxious liquid substances allegedly caused by a ship, may investigate the matter and collect such evidence as can be collected; for details of the desired evidence, reference is made to appendices 3 and 4;
- .2 if the investigation referred to under sub-paragraph .1 above discloses that the next port of call of the ship in question lies within its jurisdiction, the coastal State should also take port State action as set out in paragraphs 2.1 to 2.6 below;
- .3 if the investigation referred to in sub-paragraph .1 above discloses that the next port of call of the ship in question lies within the jurisdiction of another Party, then the coastal State should in appropriate cases furnish the evidence to that other Party and request that Party to take port State action in accordance with paragraphs 2.1 to 2.6 below; and
- .4 in either case referred to in sub-paragraphs .2 and .3 above and if the next port of call of the ship in question cannot be ascertained, the coastal State shall inform the flag State of the incident and of the evidence obtained.

2 Port State action

2.1 Parties shall appoint or authorize officers to carry out investigations for the purpose of verifying whether a ship has discharged oil or noxious liquid substances in violation of the provisions of MARPOL.

2.2 Parties may undertake such investigations on the basis of reports received from sources indicated in paragraph 1.6 above.

2.3 These investigations should be directed towards the gathering of sufficient evidence to establish whether the ship has violated the discharge requirements. Guidelines for the optimal collation of evidence are given in appendices 3 and 4.

2.4 If the investigations provide evidence that a violation of the discharge requirements took place within the jurisdiction of the port State, that port State shall either cause proceedings to be taken in accordance with its law, or furnish to the flag State all information and evidence in its possession about the alleged violation. When the port State causes proceedings to be taken, it shall inform the flag State.

2.5 Details of the report to be submitted to the flag State are set out in appendix 16.

2.6 The investigation might provide evidence that pollution was caused through damage to the ship or its equipment. This might indicate that a ship is not guilty of a violation of the discharge requirements of MARPOL Annex I or Annex II provided that:

- .1 all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and
- .2 the owner or the master did not act either with intent to cause damage or recklessly and with knowledge that damage would probably result.

2.7 However, action by the port State as set out in chapter 3 of these Procedures may be called for.

3 Inspection of crude oil washing (COW) operations

3.1 Regulations 18, 33 and 35 of MARPOL Annex I inter alia require that crude oil washing of cargo tanks be performed on certain categories of crude carriers. A sufficient number of tanks shall be washed in order that ballast water is put only in cargo tanks which have been crude oil washed. The remaining cargo tanks shall be washed on a rotational basis for sludge control.

3.2 Port State authorities may carry out inspections to ensure that crude oil washing is performed by all crude carriers either required to have a COW system or where the owner or operator chooses to install a COW system in order to comply with regulation 18 of MARPOL Annex I. In addition, compliance should be ensured with the operational requirements set out in the *Revised specifications for the design, operation and control of crude oil washing systems* (resolution A.446(XI), as amended). This can best be done in the ports where the cargo is unloaded.

3.3 Parties should be aware that the inspection referred to in paragraph 3.2 may also lead to the identification of a pollution risk, necessitating additional action by the port State as set out in chapter 3 of these Procedures.

3.4 Detailed guidelines for in-port inspections of crude oil washing procedures have been approved and published by IMO (Crude Oil Washing Systems, revised edition, 2000) and are set out in part 4 to appendix 3.

4 Inspection of unloading, stripping and prewash operations

4.1 Regulation 16 of MARPOL Annex II requires Parties to MARPOL to appoint or authorize surveyors for the purpose of implementing the regulation.

4.2 The provisions of regulation 16 are aimed at ensuring in principle that a ship having unloaded, to the maximum possible extent, noxious liquid substances of category X, Y or Z, proceeds to sea only if residues of such substances have been reduced to such quantities as may be discharged into the sea.

4.3 Compliance with these provisions is in principle ensured in the case of categories X, Y and Z substances through the application of a prewash in the unloading port and the discharge of prewash residue water mixtures to reception facilities, except that, in the case of non-solidifying and low viscosity categories Y and Z substances, requirements for the efficient stripping of a tank to negligible quantities apply in lieu of the application of a prewash. Alternatively, for a number of substances ventilation procedures may be employed for removing cargo residues from a tank.

4.4 Regulation 16.6 permits the Government of the receiving Party to exempt a ship proceeding to a port or terminal under the jurisdiction of another Party from the requirement to prewash cargo tanks and discharge residue/water mixtures to a reception facility.

4.5 Existing chemical tankers engaged on restricted voyages may by virtue of regulation 4.3 of MARPOL Annex II be exempted from the quantity limitation requirements of regulations 12.1 to 12.3. If a cargo tank is to be ballasted or washed, a prewash is required after unloading category Y or Z substances and prewash residue water mixtures must be discharged to shore reception facilities. The exemption should be indicated on the certificate.

4.6 A ship whose constructional and operational features are such that ballasting of cargo tanks is not required and cargo tank washing is only required for repairs or dry-docking may by virtue of regulation 4.4 be exempted from the provisions of regulation 12 of MARPOL Annex II, provided that all conditions mentioned in regulation 4.4 are complied with. Accordingly, the certificate of the ship should indicate that each cargo tank is only certified for the carriage of one named substance. It should also indicate the particulars of the exemption granted by the Administration in respect of pumping, piping and discharge arrangements.

4.7 Detailed instructions on efficient stripping and prewash procedures are included in a ship's Procedures and Arrangements Manual. The Manual also contains alternative procedures to be followed in case of equipment failure.

4.8 Parties should be aware that the inspection referred to in paragraphs 1.3 and 1.4 above may lead to the identification of a pollution risk or of a contravention of the discharge provisions, necessitating port State action as set out in chapter 3 of these Procedures.

4.9 For details in respect of inspections under this section, reference is made to appendix 4.

Appendix 6

GUIDELINES FOR MORE DETAILED INSPECTIONS OF SHIP STRUCTURAL AND EQUIPMENT REQUIREMENTS

1 Introduction

If the port State control officer (PSCO) from general impressions or observations on board has clear grounds for believing that the ship might be substandard, the PSCO should proceed to a more detailed inspection, taking the following considerations into account.

2 Structure

2.1 The PSCO's impression of hull maintenance and the general state on deck, the condition of such items as ladderways, guard rails, pipe coverings and areas of corrosion or pitting should influence the PSCO's decision as to whether it is necessary to make the fullest possible examination of the structure with the ship afloat. Significant areas of damage or corrosion, or pitting of plating and associated stiffening in decks and hull affecting seaworthiness or strength to take local loads, may justify detention. It may be necessary for the underwater portion of the ship to be checked. In reaching a decision, the PSCO should have regard to the seaworthiness and not the age of the ship, making an allowance for fair wear and tear over the minimum acceptable scantlings. Damage not affecting seaworthiness will not constitute grounds for judging that a ship should be detained, nor will damage that has been temporarily but effectively repaired for a voyage to a port for permanent repairs. However, in this assessment of the effect of damage, the PSCO should have regard to the location of crew accommodation and whether the damage substantially affects its habitability.

2.2 The PSCO should pay particular attention to the structural integrity and seaworthiness of bulk carriers and oil tankers and note that these ships must undergo the enhanced programme of inspection during surveys under the provision of SOLAS 1974 regulation XI-1/2.

2.3 The PSCO's assessment of the safety of the structure of those ships should be based on the Survey Report File carried on board. This file should contain reports of structural surveys, condition evaluation reports (translated into English and endorsed by or on behalf of the Administration), thickness measurement reports and a survey planning document. The PSCO should note that there may be a short delay in the update of the Survey Report File following survey. Where there is doubt that the required survey has taken place, the PSCO should seek confirmation from the RO.

2.4 If the Survey Report File necessitates a more detailed inspection of the structure of the ship or if no such report is carried, special attention should be given by the PSCO, as appropriate, to hull structure, piping systems in way of cargo tanks or holds, pump-rooms, cofferdams, pipe tunnels, void spaces within the cargo area, and ballast tanks.

2.5 For bulk carriers, PSCOs should inspect holds' main structure for any obviously unauthorized repairs. For bulk carriers, the PSCO should verify that the bulk carrier booklet has been endorsed, the water level alarms in cargo holds are fitted, and where applicable, that any restrictions imposed on the carriage of solid bulk cargoes have been recorded in the booklet and the bulk carrier loading triangle is permanently marked.

3 Machinery spaces

3.1 The PSCO should assess the condition of the machinery and of the electrical installations such that they are capable of providing sufficient continuous power for propulsion and for auxiliary services.

3.2 During inspection of the machinery spaces, the PSCO should form an impression of the standard of maintenance. Frayed, disconnected or inoperative quick-closing valve wires, disconnected or inoperative extended control rods or machinery trip mechanisms, missing valve hand wheels, evidence of chronic steam, water and oil leaks, dirty tank tops and bilges or extensive corrosion of machinery foundations are pointers to an unsatisfactory organization of the systems' maintenance. A large number of temporary repairs, including pipe clips or cement boxes, will indicate reluctance to make permanent repairs.

3.3 While it is not possible to determine the condition of the machinery without performance trials, general deficiencies, such as leaking pump glands, dirty water gauge glasses, inoperable pressure gauges, rusted relief valves, inoperative or disconnected safety or control devices, evidence of repeated operation of diesel engine scavenge belt or crankcase relief valves, malfunctioning or inoperative automatic equipment and alarm systems, and leaking boiler casings or uptakes, would warrant inspection of the engine-room logbook and investigation into the record of machinery failures and accidents and a request for running tests of machinery.

3.4 If one electrical generator is out of commission, the PSCO should investigate whether power is available to maintain essential and emergency services and should conduct tests.

3.5 If evidence of neglect becomes evident, the PSCO should extend the scope of an investigation to include, for example, tests on the main and auxiliary steering gear arrangements, overspeed trips, circuit breakers.

3.6 It must be stressed that while detection of one or more of the above deficiencies would afford guidance to a substandard condition, the actual combination is a matter for professional judgement in each case.

4 Conditions of assignment of load lines

It may be that the PSCO has concluded that a hull inspection is unnecessary but, if dissatisfied on the basis of observations on deck, with items such as defective hatch closing arrangements, corroded air pipes and vent coamings, the PSCO should examine closely the conditions of assignment of load lines, paying particular attention to closing appliances, means of freeing water from the deck and arrangements concerned with the protection of the crew.

5 Life-saving appliances

5.1 The effectiveness of life-saving appliances depends heavily on good maintenance by the crew and their use in regular drills. The lapse of time since the last survey for a Safety Equipment Certificate can be a significant factor in the degree of deterioration of equipment if it has not been subject to regular inspection by the crew. Apart from failure to carry equipment required by a convention or obvious defects such as holed lifeboats, the PSCO should look for signs of disuse of, obstructions to, or defects with survival craft launching and recovery equipment, which may include paint accumulation, seizing of pivot points, absence of greasing, condition of blocks and falls, condition of lifeboat lifting hook attachment to the lifeboat hull and improper lashing or stowing of deck cargo.

5.2 Should such signs be evident, the PSCO would be justified in making a detailed inspection of all life-saving appliances. Such an examination might include the lowering of survival craft, a check on the servicing of liferafts, the number and condition of lifejackets and lifebuoys and ensuring that the pyrotechnics are still within their period of validity. It would not normally be as detailed as that for a renewal of the Safety Equipment Certificate and would concentrate on essentials for safe abandonment of the ship, but in an extreme case could progress to a full Safety Equipment Certificate inspection. The provision and functioning of effective overside lighting, means of alerting the crew and passengers and provision of illuminated routes to assembly points and embarkation positions should be given importance in the inspection.

6 Fire safety

6.1 Ships in general: The poor condition of fire and wash deck lines and hydrants and the possible absence of fire hoses and extinguishers in accommodation spaces might be a guide to a need for a close inspection of all fire safety equipment. In addition to compliance with convention requirements, the PSCO should look for evidence of a higher than normal fire risk; this might be brought about by a poor standard of cleanliness in the machinery space, which together with significant deficiencies of fixed or portable fire-extinguishing equipment could lead to a judgement of the ship being substandard. Queries on the method of structural protection should be addressed to the flag Administration and the PSCO should generally confine the inspection to the effectiveness of the arrangements provided.

6.2 Passenger ships: The PSCO should initially form an opinion of the need for inspection of the fire safety arrangements on the basis of consideration of the ship under the previous headings and, in particular, that dealing with fire safety equipment. If the PSCO considers that a more detailed inspection of fire safety arrangements is necessary, the PSCO should examine the fire control plan on board in order to obtain a general picture of the fire safety measures provided in the ship and consider their compliance with convention requirements for the year of build. Queries on the method of structural protection should be addressed to the flag Administration and the PSCO should generally confine the inspection to the effectiveness of the arrangements provided.

6.3 The spread of fire could be accelerated if fire doors are not readily operable. The PSCO should inspect for the operability and securing arrangements of those doors in the main zone bulkheads and stairway enclosures and in boundaries of high fire risk spaces, such as main machinery rooms and galleys, giving particular attention to those retained in the open position. Attention should also be given to main vertical zones which may have been compromised through new construction. An additional hazard in the event of fire is the spread of smoke through ventilation systems. Spot checks might be made on dampers and smoke flaps to ascertain the standard of operability. The PSCO should also ensure that ventilation fans can be stopped from the master controls and that means are available for closing main inlets and outlets of ventilation systems.

6.4 Attention should be given to the effectiveness of escape routes by ensuring that vital doors are not kept locked and that alleyways and stairways are not obstructed. Regarding the minimum width of external escape routes, the arrangements approved by the flag Administrations should be accepted.

6.5 The arrangements for the location of manually operated call points as approved by the flag Administrations should be accepted.

7 Regulations for preventing collisions at sea

A vital aspect of ensuring safety of life at sea is full compliance with the collision regulations. Based on observations on deck, the PSCO should consider the need for close inspection of lanterns and their screening and means of making sound and distress signals.

8 Cargo Ship Safety Construction Certificate

The general condition of the ship may lead the PSCO to consider matters other than those concerned with safety equipment and assignment of load lines, but nevertheless associated with the safety of the vessel, such as the effectiveness of items associated with the Cargo Ship Safety Construction Certificate, which can include pumping arrangements, means for shutting off air and oil supplies in the event of fire, alarm systems and emergency power supplies.

9 Cargo Ship Safety Radio Certificates

The validity of the Cargo Ship Safety Radio Certificates and associated Record of Equipment (Form R) may be accepted as proof of the provision and effectiveness of its associated equipment, but the PSCO should ensure that appropriate certificated personnel are carried for its operation and for listening periods. Requirements for maintenance of radio equipment are contained in SOLAS 1974 regulation IV/15. The radio log or radio records should be examined. Where considered necessary, operational checks may be carried out.

10 Means of access to ship

10.1 Prior to boarding a ship, the PSCO should assess the means of embarkation on and disembarkation from the ship. The PSCO should be guided by SOLAS regulation II-1/3-9, noting its application to ships constructed on or after 1 January 2010, but also noting that paragraph 3 of this regulation applies to all ships and requires that:

- .1 the means of embarkation and disembarkation shall be inspected and maintained in suitable condition for their intended purpose, taking into account any restrictions related to safe loading; and
- .2 all wires used to support the means of embarkation and disembarkation shall be maintained as specified in SOLAS regulation III/20.4.

10.2 In regard to the maintenance of the means of embarkation and disembarkation, the PSCO should refer to the *Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation* (MSC.1/Circ.1331).

10.3 During the inspection, the PSCO should also ensure that the pilot transfer arrangements comply with SOLAS regulation V/23 and the *Unified interpretation of SOLAS regulation V/23* (MSC.1/Circ.1375/Rev.1 and MSC.1/Circ.1495/Rev.1).

11 Equipment in excess of convention or flag State requirements

Equipment on board which is expected to be relied on in situations affecting safety or pollution prevention must be in operating condition. If such equipment is inoperative and is in excess of the equipment required by an appropriate convention and/or the flag State, it should be repaired, removed or, if removal is not practicable, clearly marked as inoperative and secured.

Appendix 7

GUIDELINES FOR CONTROL OF OPERATIONAL REQUIREMENTS

1 Introduction

1.1 When, during a port State control inspection, the port State control officer (PSCO) has clear grounds according to section 2.4 of the present Procedures, the following onboard operational procedures may be checked in accordance with this resolution.

1.2 However, in exercising controls recommended in these Guidelines, the PSCO should not include any operational tests or impose physical demands which, in the judgement of the master, could jeopardize the safety of the ship, crew, passengers, control officers or cargo. Prior to requiring any practical operational control, the PSCO should review training and drill records and should inspect, as appropriate, the associated safety equipment and its maintenance records. For example, an enclosed space entry drill may be sufficiently verified without an actual enclosed space entry by verifying drill records, maintenance records, physical inspection and physical demonstrations by crew of breathing apparatus, safety harnesses and atmosphere testing instruments.

1.3 When carrying out operational control, the PSCO should ensure, as far as possible, no interference with normal shipboard operations, such as loading and unloading of cargo and ballasting, which is carried out under the responsibility of the master, nor should the PSCO require demonstration of operational aspects which would unnecessarily delay the ship.

1.4 Having assessed the extent to which operational requirements are complied with, the PSCO then has to exercise professional judgement to determine whether the operational proficiency of the crew as a whole is of a sufficient level to allow the ship to sail without danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment.

1.5 When assessing the crew's ability to conduct an operational drill, the mandatory minimum requirements for familiarization and basic safety training for seafarers, as stated in STCW 1978, as amended, shall be used as a benchmark.

2 Muster list

2.1 The PSCO may determine if the crew members are aware of their duties indicated in the muster list.

2.2 The PSCO may ensure that muster lists are exhibited in conspicuous places throughout the ship, including the navigational bridge, the engine-room and the crew accommodation spaces. When determining if the muster list is in accordance with the regulations, the PSCO may verify whether:

- .1 the muster list shows the duties assigned to the different members of the crew;
- .2 the muster list specifies which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and are ready for immediate use;

- .3 the muster list specifies the substitutes for key persons who may become disabled, taking into account that different emergencies may call for different actions;
- .4 the muster list shows the duties assigned to crew members in relation to passengers in case of emergency; and
- .5 the format of the muster list used on passenger ships is approved and is drawn up in the language or languages required by the ship's flag State and in the English language.

2.3 To determine whether the muster list is up to date, the PSCO may require an up-to-date crew list, if available, to verify this.

2.4 The PSCO may determine whether the duties assigned to crew members manning the survival craft (lifeboats or liferafts) are in accordance with the regulations and verify that a deck officer or certificated person is placed in charge of each survival craft to be used. However, the Administration (of the flag State), having due regard to the nature of the voyage, the number of persons on board and the characteristics of the ship, may permit persons practised in the handling and operation of liferafts to be placed in charge of liferafts in lieu of persons qualified as above. A second-in-command shall also be nominated in the case of lifeboats.

2.5 The PSCO may determine whether the crew members are familiar with the duties assigned to them in the muster list and are aware of the locations where they should perform their duties.

3 Communication

3.1 The PSCO may determine if the key crew members are able to communicate with each other, and with passengers, as appropriate, in such a way that the safe operation of the ship is not impaired, especially in emergency situations.

3.2 The PSCO may ask the master which languages are used as the working languages and may verify whether the language has been recorded in the logbook.

3.3 The PSCO may ensure that the key crew members are able to understand each other during the inspection or drills. The crew members assigned to assist passengers should be able to give the necessary information to the passengers in case of an emergency.

4 Search and rescue plan

For passenger ships, the PSCO may verify that there is on board an approved plan for cooperation with appropriate search and rescue services in the event of an emergency.

5 Fire and abandon ship drills

5.1 The PSCO witnessing a fire and abandon ship drill should ensure that the crew members are familiar with their duties and the proper use of the ship's installations and equipment.

5.2 When setting a drill scenario, witnessing the drill and finally assessing the standard of the drill, it is important to emphasize that the PSCO is not looking for an exceptional drill, particularly on cargo ships. The main points for the PSCO to be satisfied are:

- .1 In the event of a shipboard emergency can the crew organize themselves into an effective team to tackle the emergency?
- .2 Can the crew communicate effectively?
- .3 Is the master in control and is information flowing to/from the command centre?
- .4 In the event of the situation getting out of hand can the crew safely abandon the ship?

5.3 It is important that when setting the scenario the PSCO clearly explains to the master exactly what is required and expected during the drill, bearing in mind there may be language difficulties. PSCOs should not be intimidating, not interfere during the drill nor offer advice. The PSCO should stand back and observe only, making appropriate notes. It is important to emphasize that the PSCO's role is not to teach or train but to witness.

5.4 Drills should be carried out at a safe speed. PSCOs should not expect to see operational drills conducted in real time. During drills, care should be taken to ensure that everybody familiarizes themselves with their duties and with the equipment. If necessary, drills should be stopped if the PSCO considers that the crew are carrying out unsafe practices or if there is a real emergency.

5.5 Language difficulty between the PSCO and non-English-speaking crews can make it difficult to put across the intentions for the conduct of the exercise. Care needs to be exercised when an unsatisfactory drill takes place: this is to ensure differentiation between the crew possibly failing to understand the attending PSCO's intention and failure through lack of crew competence.

6 Fire drills

6.1 The PSCO may witness a fire drill carried out by the crew assigned to these duties on the muster list. After consultation with the master of the vessel, one or more specific locations of the ship may be selected for a simulated fire. A crew member may be sent to the location(s) and activate a fire alarm system or use other means to give the alarm.

6.2 At the location the PSCO can describe the fire indication to the crew member and observe how the report of fire is relayed to the bridge or damage control centre. At this point most ships will sound the crew alarm to summon the fire-fighting parties to their stations. The PSCO should observe the fire-fighting party arriving on the scene, breaking out their equipment and fighting the simulated fire. Team leaders should be giving orders as appropriate to their crews and passing the word back to the bridge or damage control centre on the conditions. The fire-fighting crews should be observed for proper donning and use of their equipment. The PSCO should make sure that all the gear is complete. Merely mustering the crew with their gear is not acceptable. Crew response to personnel injuries can be checked by selecting a crew member as a simulated casualty. The PSCO should observe how the word is passed and the response of stretcher and medical teams. Handling a stretcher properly through narrow passageways, doors and stairways is difficult and takes practice.

6.3 The drill should, as far as practicable, be conducted as if there were an actual emergency.

6.4 Those crew members assigned to other duties related to a fire drill, such as the manning of the emergency generators, the CO₂ room, the sprinkler and emergency fire pumps, should also be involved in the drill. The PSCO may ask these crew members to explain their duties and, if possible, to demonstrate their familiarity.

6.5 On passenger ships, special attention should be paid to the duties of those crew members assigned to the closing of manually operated doors and fire dampers. These closing devices should be operated by the responsible persons in the areas of the simulated fire(s) during the drill. Crew members not assigned to the fire-fighting teams are generally assigned to locations throughout the passenger accommodations to assist in passenger evacuation. These crew members should be asked to explain their duties and the meaning of the various emergency signals and asked to point out the two means of escape from the area, and where the passengers are to report. Crew members assigned to assist passengers should be able to communicate at least enough information to direct a passenger to the proper muster and embarkation stations.

7 Abandon ship drills

7.1 After consultation with the master, the PSCO may require an abandon ship drill for one or more survival craft. The essence of this drill is that the survival craft are manned and operated by the crew members assigned to them on the muster list. If possible, the PSCO should include the rescue boat(s) in this drill. SOLAS chapter III gives specific requirements on abandon ship training and drills, of which the following principles are particularly relevant.

7.2 The drill should, as far as practicable, be conducted as if there were an actual emergency.

7.3 The abandon ship drill should include:

- .1 summoning crew, and passengers where applicable, to the muster station(s) with the required alarm and ensuring that they are aware of the order to abandon ship as specified in the muster list;
- .2 reporting to the stations and preparing for the duties described in the muster list;
- .3 checking that crew, and passengers where applicable, are suitably dressed;
- .4 checking that lifejackets are correctly donned;
- .5 lowering at least one lifeboat after the necessary preparation for launching;
- .6 starting and operating the lifeboat engine;
- .7 operating the davits used for launching liferafts;
- .8 conducting a mock search and rescue of passenger trapped in their staterooms (if applicable);
- .9 giving instructions in the use of radio life-saving appliances;
- .10 testing emergency lighting for mustering and abandonment; and
- .11 if the ship is fitted with marine evacuation systems, exercising the procedures required for the deployment of such systems up to the point immediately preceding actual deployment.

7.4 If the lifeboat lowered during the drill is not the rescue boat, the rescue boat should be lowered as well, taking into account that it is boarded and launched in the shortest possible time. The PSCO should ensure that crew members are familiar with the duties assigned to them during abandon ship operations and that the crew member in charge of the survival craft has complete knowledge of the operation and equipment of the survival craft. Care needs to be taken when requiring a ship to lower lifeboats. The number of persons inside the lifeboats during launching for the purpose of a drill should be at the master's discretion, noting that SOLAS does not require persons in the lifeboat during lowering and recovery. The purpose of this is to reduce the risk of accidents during launching and recovery; however, this must be balanced out with the risk of embarking/diseMBarking while the boat is in the water, if the boat is to be taken away and run.

7.5 Each survival craft should be stowed in a state of continuous readiness so that two crew members can carry out preparations for embarking and launching in less than five minutes.

7.6 On passenger ships, it is required that lifeboats and davit-launched liferafts be capable of being launched within a period of 30 minutes after all persons have been assembled with lifejackets donned.

7.7 On cargo ships, it is required that lifeboats and davit-launched liferafts be capable of being launched within a period of 10 minutes.

8 Enclosed space entry and rescue drills

8.1 After consultation with the master, the PSCO may require an enclosed space entry and rescue drill. The essence of this drill is to confirm that crew members are familiar with the procedure to enter an enclosed space and rescue personnel safely, can demonstrate an enclosed space entry and rescue drill, and can communicate effectively when entering an enclosed space in case of planned entry and/or an emergency situation.

8.2 The place of the drill can be selected at an assumed enclosed space; it is not necessary to select an actual enclosed space.

8.3 The PSCO should check the structure of the enclosed space, the scenarios of the drills and the responsible officers listed on the muster list where applicable.

8.4 The enclosed space entry and rescue drill should include:

- .1 checking and use of personal protective equipment required for entry;
- .2 checking and use of communication equipment and procedures;
- .3 checking and use of instruments for measuring the atmosphere in enclosed spaces;
- .4 checking and use of rescue equipment and procedures; and
- .5 instructions in first aid and resuscitation techniques.

9 Emergency steering drills

9.1 After consultation with the master, the PSCO may require an emergency steering drill. The essence of this drill is to confirm crew members are familiar with the procedure for emergency steering.

9.2 The PSCO may check the procedure and means of communication at both the navigation bridge and the steering gear room.

9.3 The emergency steering drills should include:

- .1 direct control within the steering gear compartment;
- .2 communication procedure with the navigational bridge; and
- .3 operation of alternative power supplies where applicable.

10 Assessment of drills

10.1 When witnessing a drill, the PSCO should seek:

- .1 confirmation that the crew follow what is required of them by the muster list;
- .2 confirmation that there are sufficient personnel assigned to the various parties to cope with the duties given to them;
- .3 confirmation that there is an effective means of communication between the party, the party leader and the bridge, and that relevant information is being passed bi-directionally;
- .4 confirmation of the efficiency of the crew working as a team; this would be based on questioning of personnel and observation of their actions; the response times should be noted of the various parties in assembling at their stations; the reaction of the parties to unplanned events should also be noted;
- .5 confirmation that key members of the crew are able to understand each other;
- .6 confirmation of the efficiency of the equipment used, for example:
 - .1 that the fire alarms are audible and efficient;
 - .2 that the fire doors close as required; and
 - .3 that items of personal fire-fighting equipment appear well maintained; and
- .7 confirmation that the response time was considered fast enough (taking into account safety of the drill as indicated in paragraph 5.4 of this appendix), considering the size of the ship and the locations of fire, personnel and fire-fighting equipment.

10.2 If the PSCO determines that the crew are unfamiliar with their duties or incapable of safely operating the life-saving and fire-fighting equipment, the PSCO should halt the drill, notify the master that the drill was unsuccessful and use their professional judgement to establish the next steps, noting the likelihood that this will establish "clear grounds" for a more detailed inspection.

11 Damage Control Plan and Shipboard Oil Pollution Emergency Plan (SOPEP) or Shipboard Marine Pollution Emergency Plans (SMPEP)

11.1 The PSCO may determine if a damage control plan is provided on a passenger ship and whether the crew members are familiar with their duties and the proper use of the ship's installations and equipment for damage control purposes. The same applies with regard to SOPEP on all ships and SMPEP where applicable.

11.2 The PSCO may determine if the officers of the ship are aware of the contents of the damage control booklet, which should be available to them, or of the damage control plan.

11.3 The officers may be asked to explain the action to be taken in various damage conditions.

11.4 The officers may also be asked to explain about the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof and the arrangements for the correction of any list due to flooding.

11.5 The officers should have a sound knowledge of the effect of trim and stability of their ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken.

12 Fire control plan

12.1 The PSCO may determine if a fire control plan or booklet is provided and whether the crew members are familiar with the information given in the fire control plan or booklet.

12.2 The PSCO may verify that fire control plans are permanently exhibited for the guidance of the ship's officers. Alternatively, booklets containing the information about the fire control plan may be supplied to each officer, and one copy should at all times be available on board in an accessible position. Plans and booklets should be kept up to date, any alterations being recorded therein as soon as possible.

12.3 The PSCO may determine that the responsible officers, especially those who are assigned to related duties on the muster list, are aware of the information provided by the fire control plan or booklet and how to act in case of a fire.

12.4 The PSCO may ensure that the officers in charge of the ship are familiar with the principal structural members which form part of the various fire sections and the means of access to the different compartments.

13 Bridge operation

13.1 The PSCO may determine if officers in charge of a navigational watch are familiar with bridge control and navigational equipment, changing the steering mode from automatic to manual and vice versa, and the ship's manoeuvring characteristics.

13.2 The officer in charge of a navigational watch should have knowledge of the location and operation of all safety and navigational equipment. Moreover, this officer should be familiar with procedures which apply to the navigation of the ship in all circumstances and should be aware of all information available.

13.3 The PSCO may also verify the familiarity of the officers with all the information available to them such as manoeuvring characteristics of the ship, life-saving signals, up-to-date nautical publications, checklists concerning bridge procedures, instructions, manuals.

13.4 The Permit to Operate High-Speed Craft (HSC) includes limitations of the maximum significant wave height (and wind force for hovercraft) within which the craft may operate. When carrying out inspections of HSC, PSCOs may verify by the logbook and the weather records whether these limitations have been respected. PSCOs may find that a voyage had to be completed when worse weather conditions than permitted were encountered and not expected according to the weather forecast, but a new voyage should not commence in such conditions.

13.5 The PSCO may verify the familiarity of the officers with procedures such as periodic tests and checks of equipment, preparations for arrival and departure, changeover of steering modes, signalling, communications, alarm system, manoeuvring, emergencies and logbook entries.

14 Cargo operation

14.1 The PSCO may determine if ship's personnel assigned to specific duties related to the cargo and cargo equipment are familiar with those duties, any dangers posed by the cargo and with the measures to be taken in such a context. This will require the availability of all relevant cargo information as required by SOLAS regulation VI/2.

14.2 With respect to the carriage of solid bulk cargoes, the PSCO should verify, as appropriate, that cargo loading is performed in accordance with a ship's loading plan and unloading in accordance with a ship's unloading plan agreed by the ship and the terminal, taking into account the information provided by the loading instrument, where fitted.

14.3 The PSCO, when appropriate, may determine whether the responsible crew members are familiar with the relevant provisions of the International Maritime Solid Bulk Cargoes Code (IMSBC Code), particularly those concerning moisture limits and trimming of the cargo. Additionally, it is expected that the responsible crew members have appropriate knowledge of the recommendatory IMO Code of Safe Practice for Ships Carrying Timber Deck Cargoes (2011 TDC Code) and the Code of Safe Practice for Cargo Stowage and Securing (CSS Code) (non-mandatory, except mandatory sub-chapter 1.9), as amended.

14.4 Some solid materials transported in bulk can present a hazard during transport because of their chemical nature or physical properties. Section 2 of the IMSBC Code gives general precautions. Section 4 of the IMSBC Code contains the obligation imposed on the shipper to provide all necessary information to ensure safe transport of the cargo. The PSCO may determine whether all relevant details, including all relevant certificates of tests, have been provided to the master by the shipper.

14.5 For some cargoes, such as cargoes which are subject to liquefaction, special precautions are given (see section 7 of the IMSBC Code). The PSCO may determine whether all precautions are met with special attention to the stability of those ships engaged in the transport of cargoes subject to liquefaction and solid hazardous waste in bulk.

14.6 Officers responsible for cargo handling and operation and key crew members of oil tankers, chemical tankers and liquefied gas carriers should be familiar with the cargo and cargo equipment and with the safety measures as stipulated in the relevant sections of the IBC and IGC Codes.

14.7 For the carriage of grain in bulk, reference is made to part C of chapter VI of SOLAS 1974 and the mandatory International Code for the Safe Carriage of Grain in Bulk (Grain Code).

14.8 The PSCO may determine whether the operations and loading manuals include all the relevant information for safe loading and unloading operations in port as well as in transit conditions.

15 Operation of the machinery

15.1 The PSCO may determine if responsible ship's personnel are familiar with their duties related to operating essential machinery, such as:

- .1 emergency and standby sources of electrical power;
- .2 auxiliary steering gear;
- .3 bilge and fire pumps; and
- .4 any other equipment essential in emergency situations.

15.2 The PSCO may verify whether the responsible ship's personnel are familiar with, inter alia:

- .1 emergency generator:
 - .1 actions which are necessary before the engine can be started;
 - .2 different possibilities to start the engine in combination with the source of starting energy; and
 - .3 procedures when the first attempts to start the engine fail; and
- .2 standby generator engine:
 - .1 possibilities to start the standby engine, automatic or by hand;
 - .2 blackout procedures; and
 - .3 load-sharing system.

15.3 The PSCO may verify whether the responsible ship's personnel are familiar with, inter alia:

- .1 which type of auxiliary steering gear system applies to the ship;
- .2 how it is indicated which steering gear unit is in operation; and
- .3 what action is needed to bring the auxiliary steering gear into operation.

15.4 The PSCO may verify whether the responsible ship's personnel are familiar with, inter alia:

- .1 bilge pumps:
 - .1 number and location of bilge pumps installed on board the ship (including emergency bilge pumps);
 - .2 starting procedures for all these bilge pumps;
 - .3 appropriate valves to operate; and
 - .4 most likely causes of failure of bilge pump operation and their possible remedies; and
- .2 fire pumps:
 - .1 number and location of fire pumps installed on board the ship (including the emergency fire pump);
 - .2 starting procedures for all these pumps; and
 - .3 appropriate valves to operate.

15.5 The PSCO may verify whether the responsible ship's personnel are familiar with, inter alia:

- .1 starting and maintenance of lifeboat engine and/or rescue boat engine;
- .2 local control procedures for those systems which are normally controlled from the navigating bridge;
- .3 use of the emergency and fully independent sources of electrical power of radio installations;
- .4 maintenance procedures for batteries;
- .5 emergency stops, fire detection system and alarm system operation of watertight and fire doors (stored energy systems); and
- .6 change of control from automatic to manual for cooling water and lube oil systems for main and auxiliary engines.

16 Manuals, instructions, etc.

16.1 The PSCO may determine if the appropriate crew members are able to understand the information given in manuals, instructions, etc., relevant to the safe condition and operation of the ship and its equipment, and if they are aware of the requirements for maintenance, periodic testing, training, drills and recording of logbook entries.

16.2 The following information, inter alia, should be provided on board and PSCOs may determine whether it is in a language or languages understood by the crew and whether crew members concerned are aware of the contents and are able to respond accordingly:

- .1 instructions concerning the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire should be kept under one cover, readily available in an accessible position;
- .2 clear instructions to be followed in the event of an emergency should be provided for every person on board;
- .3 illustrations and instructions in appropriate languages should be posted in passenger cabins and be conspicuously displayed at muster stations and other passenger spaces to inform passengers of their muster station, the essential action they must take in an emergency and the method of donning lifejackets;
- .4 posters and signs should be provided on or in the vicinity of survival craft and their launching controls and shall illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions or warnings;
- .5 instructions for onboard maintenance of life-saving appliances;
- .6 training manuals should be provided in each crew mess room and recreation room or in each crew cabin; the training manual, which may comprise several volumes, should contain instructions and information, in easily understood terms illustrated wherever possible, on the life-saving appliances provided in the ship and on the best method of survival;
- .7 SOPEP in accordance with regulation 37 of MARPOL Annex I, or SMPEP for noxious liquid substances in accordance with regulation 17 of MARPOL Annex II, where applicable; and
- .8 stability booklet, associated stability plans and stability information.

17 Oil and oily mixtures from machinery spaces

17.1 The PSCO may determine if all operational requirements of MARPOL Annex I have been met, taking into account:

- .1 the quantity of oil residues generated;
- .2 the capacity of the sludge and bilge water holding tank; and
- .3 the capacity of the oily water separator.

17.2 An inspection of the ORB should be made. The PSCO may determine if reception facilities have been used and note any alleged inadequacy of such facilities.

17.3 The PSCO may determine whether the responsible officer is familiar with the handling of sludge and bilge water. The relevant items from the guidelines for systems for handling oily wastes in machinery spaces of ships may be used as guidance. Taking into account the above, the PSCO may determine if the ullage of the sludge tank is sufficient for the expected

generated sludge during the next intended voyage. The PSCO may verify that, in respect of ships for which the Administration has waived the requirements of regulations 14(1) and (2) of MARPOL Annex I, all oily bilge water is retained on board for subsequent discharge to a reception facility.

17.4 When reception facilities in other ports have not been used because of inadequacy, the PSCO should advise the master to report the inadequacy of the reception facility to the ship's flag State, in conformity with the *Format for reporting alleged inadequacies of port reception facilities* (MEPC.1/Circ.834/Rev.1, appendix 1 of the annex), as may be amended.

18 Loading, unloading and cleaning procedures for cargo spaces of tankers

18.1 The PSCO may determine if all operational requirements of MARPOL Annexes I or II have been met, taking into account the type of tanker and the type of cargo carried, including the inspection of the ORB and/or CRB. The PSCO may determine if the reception facilities have been used and note any alleged inadequacy of such facilities.

18.2 For the control on loading, unloading and cleaning procedures for tankers carrying oil, reference is made to paragraphs 3.1 to 3.4 of appendix 5 where guidance is given for the inspection of COW operations. In appendix 3, the PSCO may find detailed guidelines for in-port inspection of crude oil washing procedures.

18.3 For the control on loading, unloading and cleaning procedures for tankers carrying noxious liquid substances, reference is made to paragraphs 4.1 to 4.9 of appendix 5 where guidance is given for the inspection of unloading, stripping and prewash operations. In appendix 4 more detailed guidelines for these inspections are given.

18.4 When reception facilities in other ports have not been used because of inadequacy, the PSCO should advise the master to report the inadequacy of the reception facility to the ship's flag State, in conformity with MEPC.1/Circ.834/Rev.1, as may be amended.

18.5 The Garbage Record Book may be presented in an electronic format. A declaration from the Administration should be viewed in order to accept this electronic record book. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

18.6 When a ship is permitted to proceed to the next port with residues of noxious liquid substances on board in excess of those permitted to be discharged into the sea during the ship's passage, it should be ascertained that the residues can be received by that port. At the same time that port should be informed if practicable.

19 Dangerous goods and harmful substances in packaged form

19.1 The PSCO may determine if the required shipping documents for the carriage of dangerous goods and harmful substances carried in packaged form are provided on board and whether the dangerous goods and harmful substances are properly stowed and segregated and the crew members are familiar with the essential action to be taken in an emergency involving such packaged cargo (see SOLAS 1974 regulation VII/3).

19.2 Ship types and cargo spaces of ships of over 500 gross tonnage built on or after 1 September 1984 and ship types and cargo spaces of ships of less than 500 gross tonnage built on or after 1 February 1992 are to fully comply with the requirements of SOLAS chapter II-2. Administrations may reduce the requirements for cargo ships of less than 500 gross tonnage but such reductions shall be recorded in the Document of Compliance.

A Document of Compliance is not required for ships which only carry class 6.2, class 7 or dangerous goods in limited quantities and excepted quantities.

19.3 MARPOL Annex III contains requirements for the carriage of harmful substances in packaged form which are identified in the IMDG Code as marine pollutants. Cargoes which are determined to be marine pollutants should be labelled and stowed in accordance with MARPOL Annex III.

19.4 The PSCO may determine whether a Document of Compliance is on board and whether the ship's personnel are familiar with this document provided by the Administration as evidence of compliance of construction and equipment with the requirements. Additional control may consist of:

- .1 checking whether the dangerous goods have been stowed on board in conformity with the Document of Compliance, using the dangerous goods manifest or the stowage plan, required by SOLAS 1974 chapter VII; this manifest or stowage plan may be combined with the one required under MARPOL Annex III;
- .2 checking whether inadvertent pumping of leaking flammable or toxic liquids is not possible in case these substances are carried in under-deck cargo spaces; or
- .3 determining whether the ship's personnel are familiar with the relevant provisions of the Medical First Aid Guide and Emergency Procedures for Ships Carrying Dangerous Goods.

20 Garbage

20.1 The PSCO may determine if all operational requirements of MARPOL Annex V have been met. The PSCO may determine if the reception facilities have been used and note any alleged inadequacy of such facilities.

20.2 The 2017 *Guidelines for the implementation of MARPOL Annex V* (resolution MEPC.295(71)), as may be amended, are to assist ship operators complying with the requirements set forth in Annex V and domestic laws.

20.3 The PSCO may determine whether:

- .1 ship's personnel are aware of these Guidelines, in particular section 2 on "Garbage management"; and
- .2 ship's personnel are familiar with the disposal and discharge requirements under MARPOL Annex V inside and outside a special area and are aware of the areas determined as special areas under MARPOL Annex V.

20.4 When reception facilities in other ports have not been used because of inadequacy, the PSCO should advise the master to report the inadequacy of the reception facility to the ship's flag State, in conformity with MEPC.1/Circ.834/Rev.1, as may be amended.

21 Sewage

21.1 The PSCO may determine:

- .1 if all operational requirements of MARPOL Annex IV have been met; the PSCO may determine if the sewage treatment system, comminuting and disinfecting system or holding tank has been used and note any alleged inadequacy of the system or holding tank; and
- .2 that appropriate ship's personnel are familiar with the correct operation of the sewage treatment system, comminuting and disinfecting system or holding tank.

21.2 The PSCO may determine whether appropriate ship's personnel are familiar with the discharge requirements of regulation 11 of MARPOL Annex IV.

21.3 When reception facilities in other ports have not been used because of inadequacy, the PSCO should advise the master to report the inadequacy of the reception facility to the ship's flag State, in conformity with the waste reception facility reporting requirements (MEPC.1/Circ.834/Rev.1, as may be amended).

22 Air pollution prevention

The PSCO may determine whether:

- .1 the master or crew is familiar with the procedures to prevent emissions of ozone-depleting substances and sulphur when equivalent arrangements are in place;
- .2 the master or crew is familiar with the proper operation and maintenance of diesel engines, in accordance with their Technical Files;
- .3 the master or crew has undertaken the necessary fuel changeover procedures or equivalent, associated with demonstrating compliance within a SO_x emission control area;
- .4 the master or crew is familiar with the garbage screening procedure to ensure that prohibited garbage is not incinerated;
- .5 the master or crew is familiar with the operation of the shipboard incinerator, as required by regulation 16.2 of MARPOL Annex VI, within the limit provided in appendix IV to the Annex, in accordance with the operational manual;
- .6 the master or crew recognizes the regulation of emissions of volatile organic compounds (VOCs), when the ship is in ports or terminals under the jurisdiction of a Party to the 1997 Protocol to MARPOL in which VOCs emissions are to be regulated, and is familiar with the proper operation of a vapour collection system approved by the Administration (in case the ship is a tanker as defined in regulation 2.27 of MARPOL Annex VI); and
- .7 the master or crew is familiar with bunker delivery procedures in respect of bunker delivery notes and retained samples as required by regulation 18 of MARPOL Annex VI.

Appendix 8

GUIDELINES FOR PORT STATE CONTROL OFFICERS ON THE ISM CODE

1 GENERAL

1.1 The International Safety Management Code (ISM Code) was adopted by the Assembly at its eighteenth session by resolution A.741(18) and was amended by resolutions MSC.104(73), MSC.179(79), MSC.195(80), MSC.273(85) and MSC.353(92). The ISM Code has been made mandatory through SOLAS 1974 regulation IX/3.

1.2 The Administration is responsible for verifying compliance with the requirements of the ISM Code and issuing Documents of Compliance to companies and Safety Management Certificates to ships. This verification is carried out by the Administration or a recognized organization (RO).

1.3 Port State control officers (PSCOs) do not perform safety management audits. ISM auditing is the responsibility of the flag State and the company and does not fall under the scope of port State control. PSCOs conduct inspections of ships, which are a sampling process and give a snapshot of the vessel on a particular day.

1.4 The SMS documentation is in the ship's working language, which may not be understood by the PSCO. The procedure may not be harmonized if the PSCO is only able to review the SMS documentation on those ships where they can understand the language.

2 GOALS AND PURPOSE

2.1 The Guidelines provide guidance to PSCOs for the harmonized application of related technical or operational deficiencies found in relation to the ISM Code during a PSC inspection.

3 APPLICATION

3.1 The ISM Code applies to the following types of ships engaged in international voyages:

- .1 all passenger ships including passenger high-speed craft;
- .2 oil tankers, chemical tankers, gas carriers, bulk carriers and cargo high-speed craft of 500 gross tonnage and above; and
- .3 other cargo ships and self-propelled mobile offshore drilling units (MODUs) of 500 gross tonnage and above.

3.2 For establishing the applicability chapter IX of SOLAS and the ISM Code, "gross tonnage" means the gross tonnage of the ship as determined under the provisions of TONNAGE 1969, and as stated on the International Tonnage Certificate of the ship.

3.3 The ISM Code does not apply to government-operated ships used for non-commercial purposes.

4 RELEVANT DOCUMENTATION

4.1 Applicable documentation for these Guidelines is as follows:

- .1 SOLAS 1974;
- .2 ISM Code;
- .3 Copy of the Interim DOC or copy of the DOC;
- .4 Interim SMC or SMC; and
- .5 MSC/Circ.1059-MEPC/Circ.401, as may be amended.

5 DEFINITIONS AND ABBREVIATIONS

SOLAS: International Convention for the Safety of Life at Sea, 1974, as amended

ISM Code: International Safety Management Code

"The International Management Code for the Safe Operation of Ships and for Pollution Prevention", as adopted by resolution A.741(18), as amended

Procedures for port State control: *Procedures for port State control, 2019*, as adopted by resolution A.1138(31), as may be amended

Company: The owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the shipowner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code

Administration: The Government of the State whose flag the ship is entitled to fly

DOC: Document of Compliance

A document issued to a company which complies with the requirements of the ISM Code

SMC: Safety management certificate

A document issued to a ship which signifies that the company and its shipboard management operate in accordance with the approved safety management system

SMS: Safety management system

A structured and documented system enabling company personnel to implement effectively the company safety and environmental protection policy

Objective Quantitative or qualitative information, records or statements of

- Evidence: fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified
- Valid certificate: A certificate that has been issued, electronically or on paper, directly by a Party to a relevant convention or on its behalf by a recognized organization, and contains accurate and effective dates, meets the provisions of the relevant convention, and with which the particulars of the ship, its crew and its equipment correspond
- PSC: Port State control
- PSCO: Port State control officer
- RO: Recognized organization
An organization recognized by the Administration
- MODU: Mobile offshore drilling unit
- ISM-related: A technical and/or operational deficiency which has been assessed by the PSCO to be objective evidence of a failure, or lack of effectiveness, of the implementation of the ISM Code, and which is marked as "ISM-related" in the inspection report
- ISM deficiency: A deficiency that is cited against the ISM Code

6 INSPECTION OF SHIP

6.1 Initial inspection

6.1.1 Initial inspection should be carried out in accordance with the *Procedures for port State control*.

6.1.2 During the initial PSC inspection, the PSCO should verify that the ship carries the ISM certificates according to the provisions of chapter IX of SOLAS and the ISM Code by examining the copy of the DOC and the SMC, for which the following points are to be considered:

- .1 A copy of the DOC should be on board. However, according to the provisions of SOLAS 1974, the copy of the DOC is not required to be authenticated or certified. The copy of the DOC should have the required endorsements.
- .2 The SMC is not valid unless the operating company holds a valid DOC for that ship type. The ship type in the SMC should be included in the DOC and the company's particulars should be the same on both the DOC and the SMC. The SMC should have the required endorsements.
- .3 The validity of an Interim DOC should not exceed a period of 12 months. The validity of an Interim SMC should not exceed a period of six months. In special cases, the Administration, or at the request of the Administration another Government, may extend the validity of the Interim SMC for a period which should not exceed six months from the date of expiry.

- .4 ROs may issue a short-term DOC or SMC not exceeding five months, while the full-term certificate is being prepared in accordance with their internal procedures. If a renewal verification has been completed and a new SMC cannot be issued or placed on board the ship before the expiry date of the existing certificate, the Administration or RO may endorse the existing certificate. Such a certificate should be accepted as valid for a further period which should not exceed five months from the expiry date.
- .5 If a ship at the time when an SMC expires is not in a port in which SMC verification is to be carried out, the Administration may extend the period of validity of the SMC but this extension should be granted only for the purpose of allowing the ship to complete its voyage to the port in which SMC verification is to be carried out, and then only in cases where it appears proper and reasonable to do so.
- .6 No SMC should be extended for a period of longer than three months, and the ship to which an extension is granted should not, on its arrival in the port in which it is to be verified, be entitled by virtue of such extension to leave that port without having a new SMC. When the renewal verification is completed, the new SMC should be valid until a date not exceeding five years from the expiry date of the existing SMC before the extension was granted.
- .7 If no technical or operational-related deficiencies are found during an initial inspection carried out in accordance with the *Procedures for port State control* and guidelines, there is no need to consider the ISM aspect.

6.2 Clear grounds

6.2.1 Since the PSCO is not carrying out a safety management audit of the SMS during a PSC inspection, the term "clear grounds" is not applicable in this context.

6.2.2 Clear grounds and the subsequent more detailed inspection only exist for technical or operational deficiencies.

6.3 More detailed inspection

6.3.1 If a more detailed inspection for technical or operational-related deficiencies is carried out, this should be done in accordance with the *Procedures for port State control*. Any technical and/or operational deficiencies found during this inspection should be individually or collectively considered by the PSCO, using their professional judgement, to indicate that either:

- .1 these do not show a failure, or lack of effectiveness, of the implementation of the ISM Code; or
- .2 there is a failure, or lack of effectiveness, of the implementation of the ISM Code.

6.3.2 If an outstanding ISM-related deficiency from a previous PSC inspection exists and the current PSC inspection is more than three months later, the PSCO will verify, during the present PSC inspection, the effectiveness of any corrective action taken by the company by examining the areas of the technical and/or operational deficiencies of the previous PSC inspection report which led to the issuance of the ISM deficiency.

7 FOLLOW-UP ACTION

7.1 Technical, operational and ISM deficiencies

7.1.1 The principles outlined in the *Procedures for port State control* with regard to reporting and rectification of technical or operational deficiencies, and detention and release of the ship are applicable.

7.1.2 If there are technical or operational deficiencies reported:

- .1 which, whether detainable or non-detainable, do not show a failure, or lack of effectiveness, of the implementation of the ISM Code, no ISM deficiency should be reported in the PSC inspection report;
- .2 of which at least one non-detainable deficiency indicates a failure, or lack of effectiveness, of the implementation of the ISM Code, a non-detainable ISM deficiency will be reported in the PSC inspection report with the requirement of corrective action within three months;
- .3 which individually do not lead to a detention but collectively warrant the detention of the ship indicating a serious failure, or lack of effectiveness, of the implementation of the ISM Code, ISM will be reported in the PSC inspection report with the requirement that a safety management audit has to be carried out by the Administration or the RO before the ship may be released from its detention; and
- .4 of which at least one detainable deficiency indicates a serious failure, or lack of effectiveness, of the implementation of the ISM Code, a detainable ISM deficiency will be reported in the PSC inspection report with the requirement that a safety management audit has to be carried out by the Administration or the RO before the ship may be released from detention.

Note: Where the PSCO considers that one or more technical and/or operational deficiencies are related to the ISM Code, this should be recorded as only one ISM deficiency.

7.1.3 The PSCO will verify the effectiveness of any corrective action as described in section 6.3.2. If examination of the areas in relation to an ISM deficiency with the requirement corrective action within three months is found not satisfactory, a new detainable ISM deficiency with the requirement that a safety management audit has to be carried out by the Administration or the RO will be raised. In this case the PSCO should apply the following procedure:

- .1 record one or more technical/operational deficiencies, detainable or not, in the same area(s) which led to the issuance of the previous ISM deficiency;
- .2 mark the deficiency or deficiencies "ISM-related" and add in the additional comments the following text: "This deficiency shows non-effective implementation of the ISM Code in the areas where the ISM deficiency or deficiencies were found during the PSC inspection on _____"; and
- .3 record a new detainable ISM deficiency with the requirement that a safety management audit has to be conducted by the Administration or the RO before the ship may be released from detention.

7.2 Deficiencies not warranting detention

7.2.1 Minor typing errors in the DOC, the Interim DOC, the SMC, or Interim SMC should be recorded in the PSC inspection report as a technical deficiency with the certificates and no ISM deficiency should be recorded.

7.3 Deficiencies warranting detention

The following are deficiencies which may warrant detention:

- .1 deficiencies of a technical and/or operational nature which individually or collectively provide objective evidence of a serious failure, or lack of effectiveness, of the implementation of the ISM Code;
- .2 there is no SMC, Interim SMC and/or copy of the DOC or Interim DOC on board the ship;
- .3 there is no valid SMC or Interim SMC on board;
- .4 the SMC intermediate verification is overdue;
- .5 the SMC has expired and there is no objective evidence of an extension issued by the Administration; or the SMC has been withdrawn by the Administration;
- .6 the DOC or Interim DOC has expired or been withdrawn;
- .7 the ship type as indicated on the SMC or Interim SMC is not listed on the DOC or Interim DOC;
- .8 evidence of the DOC annual verification is not available on board;
- .9 the certificate number on the copy of the DOC and the endorsement pages are not the same; and
- .10 the company name, the company address or the issuing Government authority on the DOC or Interim DOC is not the same as on the SMC or Interim SMC.

8 REPORTING

8.1 Technical and operational-related deficiencies

8.1.1 All technical and/or operational deficiencies should be recorded as an individual deficiency in the PSC inspection report according to the *Procedures for port State control*.

8.1.2 A technical deficiency with the defective item DOC/SMC or Interim DOC/SMC should be recorded in the PSC inspection report under the deficiency code addressing the DOC or SMC respectively.

8.2 ISM deficiency

Where the PSCO has considered the technical and/or operational deficiencies found and concluded these provide objective evidence of a failure, serious failure or lack of effectiveness of the implementation of the ISM Code, an ISM deficiency should be recorded in the PSC inspection report.

Appendix 9

GUIDELINES FOR PORT STATE CONTROL RELATED TO LRIT

1 PURPOSE

These Guidelines are intended to provide basic guidance to port State control officers (PSCOs) to verify compliance with the requirements of SOLAS 1974 for Long-Range Identification and Tracking (LRIT).

2 APPLICATION

2.1 LRIT equipment is required by the provisions of SOLAS 1974 regulation V/19-1, and the *Revised performance standards and functional requirements for the Long-Range Identification and Tracking of ships* (resolution MSC.263(84)), as amended, and requires all passenger ships, cargo ships (including high-speed craft) over 300 gross tonnage and mobile offshore drilling units (MODUs) to send LRIT position information at least every six hours. Ships fitted with an automatic identification system (AIS) and operated exclusively within sea area A1 are not required to comply with LRIT. Sea area A1 is defined by SOLAS 1974 regulation IV/2.1.12 as "an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government".

2.2 SOLAS Contracting Governments are expected to maintain an LRIT data centre, either on a national basis, or on a regional or cooperative basis with other flag States, and notify IMO of it. In turn, these LRIT data centres will forward, upon request, LRIT information from ships entitled to fly their flags, to other SOLAS Contracting Governments through the International LRIT Data Exchange. Port States are entitled to request LRIT information from foreign ships that have indicated their intention to enter a port, port facility or place under its jurisdiction.

2.3 In most cases a stand-alone Inmarsat C or Inmarsat mini-C terminal used for GMDSS or ship security alert system will function as the LRIT terminal, but other equipment may be employed for the LRIT function (example, Inmarsat D+ or Iridium).

3 INSPECTION OF SHIPS REQUIRED TO CARRY LRIT EQUIPMENT

3.1 Initial inspection

3.1.1 The PSCO should first establish the sea area the ship is certified to operate in. This verification should ensure that the ship is subject to the LRIT regulation in relation to its ship type and tonnage. After the certificate check, the PSCO should verify that:

- .1 the Record of Equipment (Form E, P or C) indicates LRIT as required, if applicable; and^{*}
- .2 the equipment identified by the ship's representative as the designated LRIT terminal is switched on.[†]

^{*} A Record of Equipment is required for cargo ships greater than 500 gross tonnage and passenger ships.

[†] In exceptional circumstances and for the shortest duration possible, LRIT is capable of being switched off or may transmit less frequently (SOLAS 1974 regulation V/19-1.7.2 and resolution MSC.263(84), paragraph 4.4.1).

3.1.2 In case of recent transfer of flag, the PSCO may further ensure that:

- .1 a conformance test report has been re-issued if the new flag State does not recognize the issuing body of the existing conformance test report; or
- .2 a new conformance test has been carried out by the application service provider (ASP) on behalf of the Administration before issuance of a new test report and certificate.

3.2 Clear grounds

Conditions which may warrant a more detailed inspection of equipment used for LRIT may comprise the following:

- .1 defective main or emergency source of energy;
- .2 information or indication that LRIT equipment is not functioning properly;
- .3 ship does not hold conformance test report; and
- .4 the "record of navigational activities" indicates that the LRIT installation has been switched off and that this has not been reported to the flag Administration as required by SOLAS 1974 regulation V/19-1.7.2.

3.3 More detailed inspection

3.3.1 In case of doubt or reports of malfunctioning of the LRIT installation, the flag Administration may be contacted to determine if the ship's LRIT information has been reliably relayed to the LRIT data centre.

3.3.2 If any issues are identified at the initial inspection, a more detailed inspection of equipment used for LRIT may comprise the following:

- .1 verification of the power supply, which should be connected to the main source of energy and the emergency source of energy – there is no requirement for an uninterrupted power source; if LRIT is part of the GMDSS radio-installation, the power supply should conform to GMDSS regulations;
- .2 inspection of the "record of navigational activities" log to establish if and when the installation has been switched off and if this has been reported to the flag Administration (SOLAS 1974 regulation V/19-1.7.2 and resolution MSC.263(84), paragraph 4.4.1); and
- .3 ensuring that any conformance test report is issued on behalf of the flag State, even by itself or by an authorized application service provider (see MSC.1/Circ.1377/Rev.11 and updated versions as shown in GISIS), available for a ship that has an LRIT installation.

4 Deficiencies warranting detention

4.1 A PSCO should use professional judgement to determine whether to detain the ship until any noted deficiencies are corrected or to permit a vessel to sail with deficiencies.*

4.2 In order to assist the PSCO in the use of these Guidelines, the following deficiencies should be considered to be of such nature that they may warrant the detention of a ship:

- .1 absence of a valid LRIT conformance test report; and
- .2 the master or the responsible officer is not familiar with essential shipboard operational procedures relating to LRIT.

4.3 Taking into account the guidance found in the *Guidance on the implementation of the LRIT system* (MSC.1/Circ.1298), PSCOs are also advised that ships should not be detained if the LRIT installation on board works but the shore-side installation or organization is not able to receive, relay or process the information.

4.4 PSCOs are advised that a flag State may issue a short-term certificate; this could happen if, following a successful inspection for the issuance of a conformance test report, the ASP has not been able to issue a document yet, or if the ASP is not able to perform a conformance test in due time upon the request of the shipowner.

* SOLAS 1974 regulation V/16.2: "while all reasonable steps shall be taken to maintain the equipment required by this chapter in efficient working order, malfunctions of that equipment shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available, provided suitable arrangements are made by the master to take the inoperative equipment or unavailable information into account in planning and executing a safe voyage to a port where repairs can take place."

Appendix 10

GUIDELINES FOR PORT STATE CONTROL UNDER TONNAGE 1969

1 The International Convention on Tonnage Measurement of Ships, 1969 (TONNAGE 1969), which came into force on 18 July 1982, applies to:

- .1 new ships, i.e. ships the keels of which were laid on or after 18 July 1982; and
- .2 existing ships, i.e. ships the keels of which were laid before 18 July 1982, as from 18 July 1994,

except that for the purpose of application of SOLAS 1974, MARPOL and STCW 1978, the following interim schemes indicated in paragraph 2 may apply.

2 In accordance with the interim schemes adopted by the Organization,* the Administration may, at the request of the shipowner, use the gross tonnage determined in accordance with national rules prior to the coming into force of the TONNAGE 1969 for the following ships:

- .1 for the purpose of SOLAS 1974:
 - .1 ships the keels of which were laid before 1 January 1986;
 - .2 in respect of SOLAS 1974 regulation IV/3, ships the keels of which were laid on or after 1 January 1986 but before 18 July 1994; and
 - .3 cargo ships of less than 1,600 tons gross tonnage (as determined under the national tonnage rules) the keels of which were laid on or after 1 January 1986 but before 18 July 1994; and
- .2 for the purpose of MARPOL, ships of less than 400 tons gross tonnage (as determined under the national tonnage rules) the keels of which were laid before 18 July 1994.

3 For ships to which the above interim schemes apply, a statement to the effect that the gross tonnage has been measured in accordance with the national tonnage rules should be included in the "REMARKS" column of the International Tonnage Certificate and in the footnote to the figure of the gross tonnage in the relevant SOLAS 1974 and MARPOL certificates.

4 The port State control officer (PSCO) should take the following actions as appropriate when deficiencies are found in relation to TONNAGE 1969:

- .1 if a ship does not hold a valid International Tonnage Certificate, the ship loses all privileges of TONNAGE 1969, and the flag State should be informed without delay;
- .2 if the required remarks and footnote are not included in the relevant certificates on ships to which the interim schemes apply, this deficiency should be notified to the master; and

* Resolutions A.494(XII) in respect of SOLAS 1974, A.540(13) in respect of STCW 78, and A.541(13) in respect of MARPOL.

.3 if the main characteristics of the ship differ from those entered on the International Tonnage Certificate, so as to lead to an increase in the gross tonnage or net tonnage, the flag State should be informed without delay.

5 The control provisions of article 12 of TONNAGE 1969 do not include the provision for detention of a ship holding a valid International Tonnage Certificate.

Appendix 11

GUIDELINES FOR PORT STATE CONTROL OFFICERS ON CERTIFICATION OF SEAFARERS, MANNING AND HOURS OF REST

1 GENERAL

The International Convention for the Safety of Life at Sea (SOLAS 1974) was adopted in 1974 and entered into force in 1980. Similarly, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 1978) was adopted in 1978 and entered into force in 1984. Both have been amended several times since their entry into force.

2 GOALS AND PURPOSE

These Guidelines are intended to provide guidance for a harmonized approach of port State control (PSC) inspections in compliance with SOLAS 1974 regulation V/14 (manning) and STCW 1978 regulation I/2 (seafarer certification) and chapter VIII (hours of rest).

3 APPLICATION

3.1 SOLAS 1974 regulation V/14.2 only applies to ships covered by chapter I of SOLAS 1974. STCW 1978, as amended, applies to seafarers serving on board seagoing ships. The STCW Code is divided into a mandatory part A and a non-mandatory part B. Part B of the STCW Code is not applicable during the inspection.

3.2 All passenger ships regardless of size and all other ships of 500 gross tonnage or more should have a minimum safe manning document or equivalent on board issued by the flag State.

3.3 Any new or single deficiency which is either a deficiency related to SOLAS 1974, STCW 1978 or other IMO conventions, should preferably be registered with these conventions' references.

4 RELEVANT DOCUMENTATION

The documentation required for the inspection referred to in these Guidelines consists of:

Seafarer certification

- .1 certificate of competency;
- .2 certificate of proficiency;
- .3 endorsement attesting the recognition of a certificate (flag State endorsement);
- .4 documentary evidence (passenger ships only);
- .5 medical certificate;

Manning

- .6 minimum safe manning document;

.7 muster list;

Hours of rest

.8 table of ship working arrangements and/or watch schedule; and

.9 records of daily hours of rest.

5 DEFINITIONS AND ABBREVIATIONS

5.1 Certificate of Competency means a certificate issued and endorsed for masters, officers and Global Maritime Distress and Safety System (GMDSS) radio operators in accordance with the provisions of chapters II, III, IV or VII of STCW 1978 and entitling the lawful holder thereof to serve in the capacity and perform the functions involved at the level of responsibility specified therein.

5.2 Certificate of Proficiency means a certificate, other than a certificate of competency issued to a seafarer, stating that the relevant requirements of training, competencies or seagoing service in STCW 1978 have been met.

5.3 Documentary evidence means documentation, other than a Certificate of Competency or Certificate of Proficiency, used to establish that the relevant requirements of STCW 1978, as amended, have been met. The only documentary evidence required under STCW 1978, as amended, is issued to personnel meeting the mandatory minimum requirements for the training and qualifications of masters, officers, ratings and other personnel on passenger ships (regulation V/2).

5.4 The following abbreviations have been used:

.1 CoC (Certificate of Competency);

.2 CoP (Certificate of Proficiency); and

.3 MSMD (minimum safe manning document).

6 INSPECTION OF SHIP

6.1 Pre-boarding preparation

6.1.1 Taking into account the type, size, engine power and other particulars of the ship, the port State control officer (PSCO) should be aware of the relevant requirements of SOLAS 1974 regulation V/14 and STCW 1978.

6.1.2 The PSCO should be aware that resolutions are non-mandatory documents and not applicable during a PSC inspection.

6.1.3 The PSCO should also identify if the flag State is a Party to STCW 1978, as amended. If the flag State is not a Party to the Convention or is a Party but not listed in MSC.1/Circ.1163, as amended, a more detailed inspection should be carried out.

6.2 Initial inspection

Seafarer certificates and documents

6.2.1 The PSCO should examine the applicable documents, found in section 4.

6.2.2 The inspection should be limited to verification that seafarers serving on board, who are required to be certificated, hold the appropriate CoC, CoP and documentary evidence issued in accordance with chapters II, III, IV, V, VI and VII of STCW 1978, as amended, as well as their relevant flag State endorsement, valid dispensation, or documentary proof that an application for an endorsement has been submitted to the flag State Administration, where applicable. These documents are evidence of having successfully completed all required training and that the required standard of competence has been achieved.

6.2.3 During the verification of the seafarers' certificates and documents, the PSCO should confirm that they are applicable to the ship's characteristics, operation and their position on board.

6.2.4 In accordance with the provision of article VI, paragraph 2 of STCW 1978, certificates for masters and officers should be endorsed by the issuing Administration in the form prescribed in regulation I/2 of the annex to the Convention.

6.2.5 The certificates may be issued as one certificate with the required endorsement incorporated. If so incorporated, the form used should be that set forth in section A-I/2, paragraph 1 of the STCW Code.

6.2.6 The endorsement may also be issued as a separate document. If so, the form used should be that set out in section A-I/2, paragraph 2 of the STCW Code.

6.2.7 However, Administrations may use a format for certificates and endorsements different from those given in section A-I/2 of the STCW Code, provided that, at a minimum, the required information is provided in Roman characters and Arabic figures. Permitted variations to the format are set out in section A-I/2, paragraph 4 of the STCW Code.

6.2.8 Certificates and endorsements issued as separate documents should each be assigned a unique number, except that endorsements attesting the issuance of a certificate may be assigned the same number as the certificate concerned, provided that number is unique.

6.2.9 Certificates and endorsements issued as separate documents should include a date of expiry. The date of expiry on an endorsement issued as a separate document should not exceed 5 years from the date of issue and may never exceed the date of expiry on the certificate.

6.2.10 A CoP issued to a master or an officer in accordance with regulation V/1-1 or V/1-2, as well as a CoC that has been issued by a State other than the flag State of the ship in which the seafarer is engaged, is required to be recognized by the ship's flag State. If the PSCO identifies that the flag State has recognized a CoC or CoP from a Party not listed in MSC.1/Circ.1163, as amended, clarification should be sought from the flag Administration. According to regulation I/10, paragraph 4 of STCW 1978, certificates issued by or under the authority of a non-Party shall not be recognized by the ship's flag State Administration.

6.2.11 An Administration which recognizes under regulation I/10 a CoC or CoP issued to masters and officers should endorse that certificate to attest to its recognition. The form of the endorsement should be that found in section A-I/2, paragraph 3 of the STCW Code.

6.2.12 Incorrect wording or missing information may be a cause for suspicion regarding fraudulent certificates or endorsements.

6.2.13 Endorsements attesting to the recognition of a certificate should each be assigned a unique number; however, they may be assigned the same number as the certificate concerned, provided that number is unique.

6.2.14 Endorsements attesting to the recognition of a certificate should include a date of expiry. The date of expiry on an endorsement attesting to the recognition may never exceed the date of expiry on the certificate being recognized.

6.2.15 The capacity in which the holder of a certificate is authorized to serve should be identified in the form of endorsement in terms identical to those used in the applicable safe manning requirements of the Administration. This may result in slight variations of terminology between the original CoC and the endorsement to the recognition.

6.2.16 Seafarers must have their original CoC on board as well as any original endorsements to the recognition. An endorsement attesting the recognition of a certificate should not entitle a seafarer to serve in a higher capacity than the original CoC.

6.2.17 If circumstances require it, a flag State Administration may permit a seafarer to serve for a period not exceeding three months on ships entitled to fly its flag while holding a valid CoC issued by another party and valid for service on that party's ships. If such a situation exists, documentary proof must be readily available that an application for endorsement has been made to the Administration of the flag State. This is often referred to as the confirmation of receipt of application (CRA). This provision allows Administrations to permit seafarers to serve on their ships while the application for recognition is being processed.

6.2.18 If an endorsement to attest recognition or certificate of competency has expired or has not been issued or documentary proof of application for endorsement is not readily available, the PSCO should consider whether or not the ship can comply with STCW 1978 regulation I/4.1.2 regarding the numbers and certificates on board being in compliance with the applicable safe manning requirements of the flag State. This may be considered a deficiency in accordance with regulation I/4.2.4 and rectified before departure or detention may be applied. The officer carrying out the control should forthwith inform, in writing, the master of the ship and the Consul or, in his absence, the nearest diplomatic representative or the maritime authority of the State whose flag the ship is entitled to fly, so that appropriate action may be taken.

6.2.19 In cases of suspected intoxication of masters, officers and/or other seafarers while performing designated safety, security and marine environmental protection duties, the appropriate authorities of the port and flag State should be notified in accordance with chapters 3 and 4 of the *Procedures for port State control*.

6.2.20 Seafarers should have a valid medical certificate and have completed applicable familiarization on board the ship. If such crew members are assigned to any designated safety, security or pollution prevention duties, they must be trained and qualified for such duties in accordance with the applicable chapter of the STCW Code.

6.2.21 In accordance with section A-VI/1, paragraph 5 of the STCW Code, the flag State Administration may exempt the seafarers engaged on ships other than passenger ships of more than 500 gross tonnage on international voyages and tankers from some of the requirements of that section.

Manning

6.2.22 The PSCO should examine the applicable documents, found in section 4.

6.2.23 The guiding principles for port State control of the manning of a foreign ship should be:

- .1 verification that the numbers and certificates of the seafarers serving on board are in conformity with the applicable safe manning requirements of the flag State; and
- .2 verification that the vessel and its personnel conform to the international provisions as laid down in SOLAS 1974 and STCW 1978.

6.2.24 If a ship is manned in accordance with an MSMD or equivalent document issued by the flag State, the PSCO should accept that the ship is safely manned unless the document has clearly been issued without regard to the principles contained in the relevant instruments, in which case the PSCO should consult the flag State Administration.

6.2.25 If the flag State Administration has not issued a safe manning document or equivalent due to the ship's size the PSCO should examine the CoC, CoP and their relevant flag State endorsement for the crew and compare with the requirements of STCW 1978. Regarding the number of seafarers, the PSCO should then use his or her professional judgement, taking into account chapter VIII of STCW 1978 and the STCW Code and the duration and area of the next voyage, to determine if it can be undertaken safely. The PSCO should note the number of seafarers on board during the previous voyage as another indicator of standard manning levels for the ship. The PSCO should consult the flag State Administration if additional information is necessary.

6.2.26 If an endorsement to attest recognition has expired or has not been issued or documentary proof of application for endorsement (CRA) is not readily available, the PSCO should consider whether the ship can comply with the applicable safe manning requirements of the flag State Administration. In cases where the PSCO finds that additional information is necessary, the flag State Administration should be consulted.

6.2.27 If the flag State does not respond to the request, this should be considered as clear grounds for a more detailed inspection to ensure that the number and composition of the crew are in accordance with the principles laid down in paragraph 6.2.23 above. The ship should only be allowed to proceed to sea if it is safe to do so, taking into account the criteria for detention indicated in section 7.3. In any such case, the minimum standards to be applied should be no more stringent than those applied to ships flying the flag of the port State.

Hours of rest

6.2.28 All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch and those whose duties involve designated safety, security and environmental protection duties shall be provided with a rest period of not less than:

- .1 a minimum of 10 hours of rest in any 24-hour period; and
- .2 77 hours in any seven-day period.

6.2.29 The hours of rest may be divided into no more than two periods, one of which shall be at least six hours in length, and the intervals between consecutive periods of rest shall not exceed 14 hours.

6.2.30 The PSCO should examine the applicable documents, found in section 4, specifically the watch schedule and the records of daily hours of rest. The PSCO may inspect the seafarer's personal copy of his or her records pertaining to the hours of rest being held by the seafarer on board in order to verify that the records are accurate.

6.2.31 The watch schedule shall be in a standardized format,^{*} easily accessible to the crew and posted in the working language or languages of the ship and in English.

6.2.32 Daily hours of rest shall be maintained in a standardized format,^{*} in the working language or languages of the ship and in English.

6.2.33 The PSCO should consider that seafarers who are on call, such as when a machinery space is unattended, are to be provided with an adequate compensatory rest period if the normal period is disturbed by call-outs to work.

6.2.34 While assessing hours of rest, the PSCO should take into account any emergency conditions encountered which required a seafarer to perform additional hours of work for the immediate safety of the ship. In such cases, the master should be consulted for an explanation of the events and how impacted seafarers were provided with an adequate period of rest.

6.2.35 Flag State Administrations may provide exceptions to the requirements of paragraphs 6.2.28.2 and 6.2.29 above for no more than two consecutive weeks provided that the rest period for the seafarer is not less than 70 hours in any seven-day period.

6.3 Clear grounds

6.3.1 Clear grounds are defined in section 1.7.2 of the *Procedures for port State control*.

6.3.2 In addition to the general examples of clear grounds in section 2.4 of the *Procedures*, the specific occurrences below, as outlined in paragraph 1.3 of regulation I/4 of STCW 1978, are considered as factors leading to a more detailed inspection:

- .1 the ship has been involved in a collision, grounding or stranding; or
- .2 there has been a discharge of substances from the ship when under way, at anchor or at berth which is illegal under any international convention; or
- .3 the ship has been manoeuvred in an erratic or unsafe manner whereby routing measures adopted by IMO or safe navigation practices and procedures have not been followed; or
- .4 the ship is otherwise being operated in such a manner as to pose a danger to persons, property, or the environment, or a compromise to security.

6.4 More detailed inspection

6.4.1 The PSCO should:

- .1 verify that seafarers are sufficiently rested and otherwise fit for duty for the first watch at the commencement of the intended voyage and for subsequent relieving watches; this may be done by comparing records of daily hours of

^{*} The IMO/ILO *Guidelines for the development of tables of seafarers' shipboard working arrangements and formats of records of seafarers' hours of work or hours of rest* may be used.

rest with the requirements in STCW 1978 for an appropriate period, which should at least include, whenever possible, the seven-day period immediately prior to departure; the rest period must reflect actual hours worked;

- .2 verify a sufficient number of certificates from all departments to demonstrate that the vessel and the composition of the crew complies with the MSMD and requirements of STCW 1978; and
- .3 verify that navigational or engineering watch arrangements conform to the requirements specified for the ship in the MSMD by the flag State and the requirements of STCW 1978 regulation VIII/2 and STCW Code section A-VIII/2.

6.4.2 An assessment of seafarers can only be conducted by the port State if there are clear grounds for believing that the ability of the seafarers of the ship to maintain watchkeeping and security standards, as appropriate, as required by STCW 1978 is not being maintained because any of the situations mentioned in paragraphs 6.3.2.1 to 6.3.2.4 have occurred:

- .1 the assessment procedure provided in STCW 1978 regulation I/4, paragraph 1.3, should take the form of a verification that members of the crew who are required to be competent do in fact possess the necessary skills related to the occurrence;
- .2 it should be borne in mind when making this assessment that onboard procedures are relevant to the International Safety Management (ISM) Code and that the provisions of STCW 1978 are confined to the competence to safely execute those procedures;
- .3 control procedures under STCW 1978 should be confined to the standards of competence of the individual seafarers on board and their skills related to watchkeeping as defined in part A of the STCW Code. Onboard assessment of competency should commence with verification of the certificates of the seafarers;
- .4 notwithstanding verification of the certificate, the assessment under STCW 1978 regulation I/4, paragraph 1.3 can require the seafarer to demonstrate the related competency at the place of duty. Such demonstration may include verification that operational requirements in respect of watchkeeping standards have been met and that there is a proper response to emergency situations within the seafarer's level of competence;
- .5 in the assessment, only the methods for demonstrating competence together with the criteria for its evaluation and the scope of the standards given in part A of the STCW Code should be used. In cases where there is doubt about knowledge of operational use of equipment, the relevant officer or crew member should be asked to perform a functional test. Failure to perform a functional test could indicate the lack of familiarization or competency; and
- .6 assessment of competency related to security should be conducted for those seafarers with specific security duties only in case of clear grounds, as provided for in chapter XI-2 of SOLAS 1974, by the competent security authority. In all other cases, it should be confined to the verification of the certificates and/or endorsements of the seafarers.

7 FOLLOW-UP ACTION

7.1 Possible action

Possible action to be considered by the PSCO for the control in compliance with SOLAS 1974 or STCW 1978 may be dealt with in the following ways:

- .1 exercise of control with regard to the documentation concerning the ship; and
- .2 exercise of control with regard to the documentation for individual seafarers on board.

7.2 Possible deficiencies

The following is a non-exhaustive list of possible deficiencies:

Seafarers' documentation:

- .1 no CoC, CoP, flag State endorsements or proof that an application for an endorsement has been submitted (STCW 1978 regulations I/4.2.1 and I/10);
- .2 special training requirements: mandatory basic or advanced training or endorsement not presented;
- .3 no evidence of basic training, or other certificate of proficiency, if not included in a qualification certificate held (STCW 1978 regulations VI/1, VI/1.2, VI/3, VI/4 and VI/6); and
- .4 information or evidence that the master or crew is not familiar with essential shipboard operations relating to the safety of ships or the prevention of pollution, or that such operations have not been carried out.

Manning:

- .5 no MSMD or the manning (number or qualification) not in accordance with the MSMD (SOLAS 1974 regulation V/14 and STCW 1978 regulation I/4.2.2); and
- .6 unqualified person on duty (STCW 1978 regulation I/4.2.4).

Hours of rest:

- .7 watch schedule not posted or not being followed (STCW 1978 regulations I/4.2.3 and I/4.2.5 and STCW Code A-VIII/1.5);
- .8 the absence of a table of shipboard working arrangements or of records of rest of seafarers (STCW Code A-VIII/1.7);
- .9 the records of hours of rest are inaccurate or incomplete (STCW Code A-VIII/1.7); and

- .10 the watchkeeper is receiving less than 10 hours rest in any 24-hour period (i.e. working in excess of 14 hours) or 77 hours rest in any 7-day period (STCW Code A-VIII/1).

7.3 Deficiencies that may warrant detention

7.3.1 Deficiencies which may be deemed to pose a danger to persons, property or the environment, as specified in paragraph 2 of regulation I/4 of STCW 1978, as amended:

- .1 failure of seafarers to hold a certificate, to have an appropriate certificate, to have a valid dispensation or to provide documentary proof that an application for an endorsement has been submitted to the Administration in accordance with regulation I/10, paragraph 5;
- .2 failure to comply with the applicable safe manning requirement of the Administration;
- .3 failure of navigational or engineering watch arrangements to conform to the requirements specified for the ship by the Administration;
- .4 absence in a watch of a person qualified to operate equipment essential to safe navigation, safety radiocommunications or the prevention of marine pollution; and
- .5 inability to provide, for the first watch at the commencement of a voyage and for subsequent relieving watches, persons who are sufficiently rested and otherwise fit for duty.

7.3.2 Failure to correct any of the deficiencies, in so far as it has been determined by the PSCO that they pose a danger to persons, property or the environment, shall be the only grounds under STCW 1978, as amended, on which a ship may be detained.

7.3.3 Examples of detainable deficiencies according to SOLAS 1974 and STCW 1978 are listed below:

Ship-related:

- .1 MSMD or equivalent not presented (SOLAS 1974 regulation V/14.2); and
- .2 records of daily hours of rest are not on board (STCW Code A-VIII/1.7); and

Seafarers' documentation:

- .3 not available or serious discrepancy in the CoC (STCW 1978 regulation I/4.2.1);
- .4 absence in watch of a radio operator (general/restricted GMDSS); certificates and endorsement not available (STCW 1978 regulations I/4.2.1, I/4.2.2, I/4.2.3, I/4.2.4 and II/1.2.1);
- .5 documentation for personnel with designated safety, security and marine environmental duties not available (STCW 1978 regulations I/4.2.1, I/4.2.2, I/4.2.3 and I/4.2.4);

- .6 expired certificates (STCW 1978 regulation I/4.2.1), and for medical certificates also refer to STCW 1978 regulations I/9.6 and I/9.7; and
- .7 evidence that a certificate has been fraudulently obtained or the holder of a certificate is not the person to whom that certificate was originally issued.

7.4 Actions to be considered

Ship-related

7.4.1 If the actual number of crew or composition does not conform to the manning document, the port State should request the flag State for advice as to whether or not the ship should be allowed to sail with the actual number of crew and composition of crew. Such a request and response should be by the most expedient means and either party may request the communication in writing. If the actual crew number or composition is not brought into compliance with the MSMD or the flag State does not advise that the ship may sail, the ship may be considered for detention after the criteria set out in section 7.3 have been taken into account.

7.4.2 Before detaining the ship the PSCO should consider the following:

- .1 length and nature of the intended voyage or service;
- .2 whether or not the deficiency poses a danger to ships, persons on board or the environment;
- .3 whether or not appropriate rest periods of the crew can be observed;
- .4 size and type of ship and equipment provided; and
- .5 nature of cargo.

Deficiency-related

7.4.3 When the manning is not in accordance with the MSMD and no flag State endorsements or no "documentary proof of application" can be presented, the port State should consult the flag State whenever possible, taking into account time differences or other conditions. However, if it is not possible to establish contact with the flag State, the port State should forthwith inform, in writing, the master of the ship and the Consul or, in their absence, the nearest diplomatic representative or the maritime authority of the State whose flag the ship is entitled to fly, so that appropriate action may be taken.

7.4.4 In cases where an unqualified seafarer has been on duty and/or the watch schedule has not been followed, the flag State should be informed and this could be considered as an ISM deficiency.

7.4.5 In cases where there is a seafarer on duty who is not qualified to carry out an operation, that particular operation should be stopped immediately.

8 NOTE ON REPORTING DEFICIENCIES

The PSCO should be aware that, in addition to SOLAS 1974 and STCW 1978, there may be other applicable international instruments. The PSCO should decide which one is the most appropriate.

Annex

Table B-I/2

List of certificates or documentary evidence required under STCW 1978

Refer to table B-I/2 of the STCW Code, as amended

Appendix 12

LIST OF CERTIFICATES AND DOCUMENTS

PART A

List of certificates and documents which to the extent applicable should be checked as a minimum during the inspection referred to in paragraph 2.2.3 (as appropriate):

- 1 International Tonnage Certificate (TONNAGE 1969 article 7);
- 2 Reports of previous port State control inspections;
- 3 Passenger Ship Safety Certificate (SOLAS 1974 regulation I/12);
- 4 Cargo Ship Safety Construction Certificate (SOLAS 1974 regulation I/12);
- 5 Cargo Ship Safety Equipment Certificate (SOLAS 1974 regulation I/12);
- 6 Cargo Ship Safety Radio Certificate (SOLAS 1974 regulation I/12);
- 7 Cargo Ship Safety Certificate (SOLAS 1974 regulation I/12);
- 8 Exemption Certificate (SOLAS 1974 regulation I/12);
- 9 Minimum safe manning document (SOLAS 1974 regulation V/14.2);
- 10 International Load Line Certificate (1966) (LL 1966/LL PROT 1988 article 16.1);
- 11 International Load Line Exemption Certificate (LL 1966/LL PROT 1988 article 16.2);
- 12 International Oil Pollution Prevention Certificate (MARPOL Annex I regulation 7.1);
- 13 International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (NLS) (MARPOL Annex II regulation 9.1);
- 14 International Sewage Pollution Prevention Certificate (MARPOL Annex IV regulation 5.1 and MEPC.1/Circ.408);
- 15 International Air Pollution Prevention Certificate (MARPOL Annex VI regulation 6.1);
- 16 International Energy Efficiency Certificate (MARPOL Annex VI regulation 6);
- 17 International Ballast Water Management Certificate (BWM 2004 article 9.1(a) and regulation E-2);
- 18 International Anti-Fouling System Certificate (AFS 2001 annex 4 regulation 2);
- 19 Declaration on AFS (AFS 2001 annex 4 regulation 5);
- 20 International Ship Security Certificate or Interim International Ship Security Certificate (ISPS Code part A/19 and appendices);

-
- 21 Certificates for masters, officers or ratings (STCW 1978 article VI and regulation I/2, and STCW Code section A-I/2);
 - 22 Copy of Document of Compliance or a copy of the Interim Document of Compliance (SOLAS regulation IX/4.2 and ISM Code paragraphs 13 and 14);
 - 23 Safety Management Certificate or an Interim Safety Management Certificate (SOLAS 1974 regulation IX/4.3 and ISM Code paragraphs 13 and 14);
 - 24 International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk, or the Certificate of Fitness for the Carriage of Liquefied Gases in Bulk, whichever is appropriate (IGC Code section 1.4 or GC Code section 1.6);
 - 25 International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk, or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk, whichever is appropriate (IBC Code section 1.5 or BCH Code section 1.6);
 - 26 International Certificate of Fitness for the Carriage of INF Cargo (SOLAS regulation VII/16 and INF Code section 1.3);
 - 27 Certificate of insurance or other financial security in respect of civil liability for oil pollution damage (CLC 69/92 article VII.2);
 - 28 Certificate of insurance or other financial security in respect of civil liability for bunker oil pollution damage (BUNKERS 2001 article 7.2);
 - 29 Certificate of Insurance or other Financial Security in respect of Liability for the Removal of Wrecks (Nairobi WRC 2007 article 12);
 - 30 High-Speed Craft Safety Certificate and Permit to Operate High-Speed Craft (SOLAS 1974 regulation X/3.2 and 1994/2000 HSC Code paragraph 1.8.1 and section 1.9);
 - 31 Document of Compliance with the special requirements for ships carrying dangerous goods (SOLAS 1974 regulation II-2/19.4);
 - 32 Document of authorization for the carriage of grain and grain loading manual (SOLAS 1974 regulation VI/9 and Grain Code section 3);
 - 33 Condition Assessment Scheme (CAS) Statement of Compliance, CAS Final Report and Review Record (MARPOL Annex I regulations 20 and 21; resolution MEPC.94(46), as amended by resolutions MEPC.99(48), MEPC.112(50), MEPC.131(53), MEPC.155(55) and MEPC.236(65));
 - 34 Continuous Synopsis Record (SOLAS 1974 regulation XI-1/5);
 - 35 Oil Record Book, parts I and II (MARPOL Annex I regulations 17 and 36);
 - 36 Cargo Record Book (MARPOL Annex II regulation 15);
 - 37 Garbage Record Book (MARPOL Annex V regulation 10);
 - 38 Garbage Management Plan (MARPOL Annex V regulation 10 and resolution MEPC.220(63));

- 39 Logbook and the recordings of the tier and on/off status of marine diesel engines (MARPOL Annex VI regulation 13.5.3);
- 40 Logbook for fuel oil changeover (MARPOL Annex VI regulation 14.6);
- 41 Ozone-depleting Substances Record Book (MARPOL Annex VI regulation 12.6);
- 42 Ballast Water Record Book (BWM 2004 article 9.1 (b) and regulation B-2);
- 43 Fixed gas fire-extinguishing systems – cargo spaces Exemption Certificate and any list of cargoes (SOLAS 1974 regulation II-2/10.7.1.4);
- 44 Dangerous goods manifest or stowage plan (SOLAS 1974 regulations VII/4 and VII/7-2 and MARPOL Annex III regulation 5);
- 45 For oil tankers, the record of oil discharge monitoring and control system for the last ballast voyage (MARPOL Annex I regulation 31.2);
- 46 Search and rescue cooperation plan for passenger ships trading on fixed routes (SOLAS 1974 regulation V/7.3);
- 47 For passenger ships, List of operational limitations (SOLAS 1974 regulation V/30.2);
- 48 Nautical charts and nautical publications (SOLAS 1974 regulations V/19.2.1.4 and V/27);
- 49 Records of hours of rest and table of shipboard working arrangements (STCW Code section A-VIII/1.5 and 1.7, ILO Convention No.180 articles 5.7 and 8.1 and MLC 2006 Standards A.2.3.10 and A.2.3.12);
- 50 Unattended machinery spaces (UMS) evidence (SOLAS 1974 regulation II-1/46.3).

Part B

List of other certificates and documents which to the extent applicable are required to be on board (as appropriate):

- 1 Construction drawings (SOLAS 1974 regulation II-1/3-7);
- 2 Ship Construction File (SOLAS 1974 regulation II-1/3-10);
- 3 Manoeuvring booklet and information (SOLAS 1974 regulation II-1/28);
- 4 Stability information (SOLAS 1974 regulations II-1/5 and II-1/5-1, and LL 1966/LL PROT 1988 regulation 10);
- 5 Subdivision and stability information (MARPOL Annex I regulation 28);
- 6 Damage control plans and booklets (SOLAS 1974 regulation II-1/19 and MSC.1/Circ.1245, as amended);
- 7 Ship Structure Access Manual (SOLAS 1974 regulation II-1/3-6);

- 8 Enhanced survey report files (in case of bulk carriers or oil tankers) (SOLAS 1974 regulation XI-1/2 and 2011 ESP Code paragraphs 6.2 and 6.3 of annex A, part A and part B, and annex B, part A and part B);
- 9 Cargo Securing Manual (SOLAS 1974 regulation VI/5.6 and VII/5 and MSC.1/Circ.1353/Rev.1);
- 10 Bulk carrier booklet (SOLAS 1974 regulations VI/7.2 and XII/8 and BLU Code);
- 11 Loading/unloading plan for bulk cargoes (SOLAS 1974 regulation VI/7.3);
- 12 Cargo information (SOLAS 1974 regulations VI/2 and XII/10 and MSC/Circ.663);
- 13 Fire control plan/booklet (SOLAS 1974 regulations II-2/15.2.4 and II-2/15.3.2);
- 14 Fire safety operational booklet (SOLAS 1974 regulation II-2/16.2);
- 15 Fire safety training manual (SOLAS 1974 regulation II-2/15.2.3);
- 16 Training manual (SOLAS 1974 regulation III/35);
- 17 Onboard training, drills and maintenance records (SOLAS 1974 regulations II-2/15.2.2.5, III/19.3, III/19.5, III/20.6 and III/20.7);
- 18 Ship-specific plans and procedures for recovery of persons from the water (SOLAS 1974 regulation III/17-1, resolution MSC.346(91) and MSC.1/Circ.1447);
- 19 Decision support system for masters (Passenger ships) (SOLAS 1974 regulation III/29);
- 20 International Code of Signals and a copy of Volume III of IAMSAR Manual (SOLAS 1974 regulation V/21);
- 21 Records of navigational activities (SOLAS 1974 regulations V/26 and V/28.1);
- 22 Ship Security Plan and associated records (SOLAS 1974 regulation XI-2/9 and ISPS Code part A/9 and 10);
- 23 Engine International Air Pollution Prevention Certificate (NOx Technical Code 2008 paragraph 2.1.1.1);
- 24 EEDI Technical File (MARPOL Annex VI regulation 20);
- 25 Technical Files (NOx Technical Code 2008 paragraph 2.3.4);
- 26 Record Book of Engine Parameters (NOx Technical Code paragraph 2.3.7);
- 27 Type approval certificate of incinerator (MARPOL Annex VI regulation 16.6);
- 28 Manufacturer's operating manual for incinerators (MARPOL Annex VI regulation 16.7);
- 29 Fuel oil changeover procedure for fuel oil changeover (MARPOL Annex VI regulation 14.6);

- 30 Bunker delivery notes and representative sample (MARPOL Annex VI regulations 18.6 and 18.8.1)
- 31 Shipboard Oil Pollution Emergency Plan (SOPEP) (MARPOL Annex I regulation 37.1 and resolution MEPC.54(32), as amended by resolution MEPC.86(44));
- 32 Shipboard Marine Pollution Emergency Plan for Noxious Liquid Substances (MARPOL Annex II regulation 17);
- 33 Ship Energy Efficiency Management Plan (MARPOL Annex VI regulation 22, MEPC.1/Circ.795);
- 34 STS operation plan and records of STS operations (MARPOL Annex I regulation 41);
- 35 Procedures and Arrangements Manual (chemical tankers) (MARPOL Annex II regulation 14.1; resolution MEPC.18(22), as amended by resolution MEPC.62(35));
- 36 VOC Management Plan (MARPOL Annex VI regulation 15.6);
- 37 Ballast Water Management Plan (BWM 2004 regulation B-1 and resolution MEPC.127(53), as amended);
- 38 LRIT conformance test report (SOLAS 1974 regulation V/19-1.6 and MSC.1/Circ.1307);
- 39 Copy of the certificate of compliance issued by the testing facility, stating the date of compliance and the applicable performance standards of VDR (voyage data recorder) (SOLAS 1974 regulation V/18.8);
- 40 AIS test report (SOLAS 1974 regulation V/18.9 and MSC.1/Circ.1252);
- 41 Noise survey report (SOLAS 1974 regulation II-1/3-12);
- 42 Oil discharge monitoring and control (ODMC) operational manual (MARPOL Annex I regulation 31; resolution A.496(XII); resolution A.586(14), as amended by resolution MEPC.24(22); and resolution MEPC.108(49), as amended by resolution MEPC.240(65));
- 43 Crude Oil Washing Operation and Equipment Manual (MARPOL Annex I regulation 35 and resolution MEPC.81(43));
- 44 Material Safety Data Sheets (MSDS) (SOLAS 1974 regulation VI/5-1 and MSC.286(86));
- 45 Record of AFS (AFS 2001 annex 4 regulation 2);
- 46 Coating Technical File (SOLAS 1974 regulation II-1/3-2); and
- 47 Maintenance plans (SOLAS 1974 regulations II-2/14.2.2, II-2/14.3 and II-2/14.4).

For reference:

- 1 Certificate of Registry or other document of nationality (UNCLOS article 91); As reported to MSC 76 (MSC 76/23, paragraph 16.2), the geographically large South American and Caribbean region has been sub-divided into three regions: South America (Atlantic), South America (Pacific) and the Caribbean. This change is reflected in all relevant reports issued as of 1 January 2003.
- 2 Certificates as to the ship's hull strength and machinery installations issued by the classification society in question (only to be required if the ship maintains its class with a classification society);
- 3 Cargo Gear Record Book (ILO Convention No.32 article 9.2(4) and ILO Convention No.152 article 25);
- 4 Certificates loading and unloading equipment (ILO Convention No.134 article 4.3(e) and ILO Convention No.32 article 9(4));
- 5 Medical certificates (ILO Convention No.73 or MLC 2006 Standard A1.2);
- 6 Records of hours of work or rest of seafarers (ILO Convention No.180 part II article 8.1 or MLC 2006 Standard A.2.3.12);
- 7 Maritime Labour Certificate (MLC 2006 regulation 5.1.3);
- 8 Declaration of Maritime Labour compliance on board (parts I and II) (MLC 2006 regulation 5.1.3);
- 9 Seafarers' employment agreements (MLC 2006 Standard A 2.1);
- 10 Certificate of insurance or financial security for repatriation of seafarers (MLC 2006, regulation 2.5); and
- 11 Certificate of insurance or financial security for shipowners' liability (MLC 2006 regulation 4.2).

Appendix 13

**REPORT OF INSPECTION IN ACCORDANCE WITH
PROCEDURES FOR PORT STATE CONTROL ***

FORM A

(Reporting authority)
(Address)
(Telephone)
(Telefax)
(Email)

Copy to: Master
Head office
PSCO

If ship is detained, copy to:
Flag State
IMO
Recognized organization, if applicable

1	Name of reporting authority	2	Name of ship
3	Flag of ship	4	Type of ship
5	Call sign	6	IMO number
7	Gross tonnage	8	Deadweight (where applicable)
9	Year of build	10	Date of inspection
11	Place of inspection	12	Classification society
13	Date of release from detention**		
14	Particulars of ISM company (details or IMO Company Number)**		
15	Relevant certificate(s)**		
	a) Title	b) Issuing authority	c) Dates of issue and expiry
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Appendix 14

**REPORT OF DEFICIENCIES
NOT FULLY RECTIFIED OR ONLY PROVISIONALLY RECTIFIED**

**In accordance with the provision of paragraph 3.7.3 of
Procedures for port State control (resolution A.1138(31))**

**(Copy to maritime authority of next port of call, flag Administration,
or other certifying authority as appropriate)**

1 From (country/region)	2 Port
3 To (country/region)	4 Port
5 Name of ship	6 Date departed
7 Estimated place and time of arrival	
8 IMO number	9 Flag of ship and POR
10 Type of ship	11 Call sign
12 Gross tonnage	13 Year of build
14 Issuing authority of relevant certificate(s)	
15 Nature of deficiencies to be rectified	16 Suggested action
.....	(including action at next port of call)
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17 Action taken

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Reporting authority Office

Name Telefax/email

.....
(duly authorized PSCO of reporting authority)

Signature..... Date

Appendix 15

REPORT OF ACTION TAKEN TO THE NOTIFYING AUTHORITY

**In accordance with the provision of paragraph 3.7.3 of
Procedures for port State control (resolution A.1138(31))**

(by telefax/email and/or mail)

1 To: (Name)
(Position)
(Authority)
Telephone Telefax/email
Date:

2 From: (Name)
(Position)
(Authority)
Telephone Telefax/email

3 Name of ship

4 Call sign **5** IMO Number

6 Port of inspection

7 Date of inspection

8 Action taken

a) Deficiencies

b) Action taken

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9 Next port (Date)

10 Supporting documentation No Yes (See attached)

Signature

Appendix 16

FORMAT FOR THE REPORT OF CONTRAVENTION OF MARPOL (article 6)

PROCEDURES FOR PORT STATE CONTROL

(resolution A.1138(31))

(Issuing authority)
(Address)
(Telephone)
(Telefax)
(Email)

Copy to: Master

- 1** Reporting country
- 2** Name of ship
- 3** Flag of ship
- 4** Type of ship
- 5** Call sign **6** IMO number
- 7** Gross tonnage **8** Deadweight
(where appropriate)
- 9** Year of build **10** Classification society
- 11** Date of incident **12** Place of incident
- 13** Date of investigation

14 In case of contravention of discharge provisions, a report may be completed in addition to a port State report on deficiencies. This report should be in accordance with parts 2 and 3 of appendix 3 and/or parts 2 and 3 of appendix 4, as applicable, and should be supplemented by documents such as:

- .1 a statement by the observer of the pollution;
- .2 the appropriate information listed under section 1 of part 3 of appendices 3 and 4 to the Procedures; the statement should include considerations which lead the observer to conclude that none of any other possible pollution sources is in fact the source;
- .3 statements concerning the sampling procedures both of the slick and on board; these should include location where and time when samples were taken, identity of person(s) taking the samples and receipts identifying the persons having custody and receiving transfer of the samples;

- .4 reports of analyses of samples taken of the slick and on board; the reports should include the results of the analyses, a description of the method employed, reference to or copies of scientific documentation attesting to the accuracy and validity of the method employed and names of persons performing the analyses and their experience;
- .5 if applicable, a statement by the PSCO on board together with the PSCO's rank and organization;
- .6 statements by persons being questioned;
- .7 statements by witnesses;
- .8 photographs of the slick; and
- .9 copies or printouts of relevant pages of Oil/Cargo Record Books, logbooks, discharge recordings, etc.

Name and title (duly authorized contravention investigation official)

.....
.....
.....
.....

Signature

Appendix 17

COMMENTS BY FLAG STATE ON DETENTION REPORT

Name of ship

IMO number/call sign

Flag State

Gross tonnage

Deadweight (where appropriate)

Date of report

Report by

Classification society

Recognized organization involved

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Did you receive the notification of detention? (tick the box if the answer is "yes")

Action taken

a) Deficiencies	b) Cause	c) Action taken
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Additional Information:

Appendix 18

**2019 GUIDELINES FOR PORT STATE CONTROL
UNDER MARPOL ANNEX VI CHAPTER 3 (RESOLUTION MEPC.321(74))**

Chapter 1 GENERAL

1.1 This document is intended to provide basic guidance on the conduct of port State control inspections for compliance with MARPOL Annex VI (hereinafter referred to as "the Annex") and afford consistency in the conduct of these inspections, the recognition of deficiencies and the application of control procedures.

1.2 Chapters 1 (General), 3 (Contravention and detention), 4 (Reporting requirements) and 5 (Review procedures) of the *Procedures for port State control*, as adopted by the Organization, as may be amended, also apply to these Guidelines.

Chapter 2 INSPECTIONS OF SHIPS REQUIRED TO CARRY THE IAPP CERTIFICATE

2.1 Initial inspections

2.1.1 The port State control officer (PSCO) should ascertain the date of ship construction and the date of installation of equipment on board which are subject to the provisions of the Annex, in order to confirm which regulations of the Annex are applicable.

2.1.2 On boarding and introduction to the master or responsible ship's officer, the PSCO should examine the following documents, where applicable:

- .1 the International Air Pollution Prevention Certificate (IAPP Certificate) (regulation VI/6), including its Supplement;
- .2 the Engine International Air Pollution Prevention Certificate (EIAPP Certificate) (paragraph 2.2 of the NO_x Technical Code) including its Supplement, for each applicable marine diesel engine;
- .3 the Technical File (paragraph 2.3.4 of the NO_x Technical Code) for each applicable marine diesel engine;
- .4 depending on the method used for demonstrating NO_x compliance for each applicable marine diesel engine:
 - .1 the Record Book of Engine Parameters for each marine diesel engine (paragraph 6.2.2.7 of the NO_x Technical Code) demonstrating compliance with regulation VI/13 by means of the marine diesel engine parameter check method; or
 - .2 documentation relating to the simplified measurement method; or
 - .3 documentation related to the direct measurement and monitoring method;
- .5 for a ship to which regulation VI/13.5.1 applies for a particular NO_x Tier III emission control area and that has one or more installed marine diesel engines certified to both Tier II and Tier III or which has one or more marine diesel

- engines certified to Tier II only,* the required logbook and the recordings for the tier and on/off status of those marine diesel engines while the ship is within an applicable NO_x Tier III emission control area;
- .6 the Approved Method File (regulation VI/13.7);
 - .7 the written procedures covering fuel oil change over operations (in a working language or languages understood by the crew) where separate fuel oils are used in order to achieve compliance (regulation VI/14.6);
 - .8 the approved documentation relating to exceptions and/or exemptions granted under regulation VI/3;
 - .9 the approved documentation (SECC where issued, ETM, OMM, SECP) and relating to any installed Exhaust Gas Cleaning System (EGCS) or equivalent means, to reduce SO_x emissions (regulation VI/4);
 - .10 EGCS monitoring records, checking they have been retained and show compliance. Additionally, checking that the EGCS Record Book including nitrate discharge data and performance records,[†] or approved alternative, has been duly maintained;
 - .11 the bunker delivery notes (BDNs) and representative samples or records thereof (regulation VI/18);
 - .12 the copy of the type approval certificate of applicable shipboard incinerator (resolutions MEPC.76(40) or MEPC.244(66));
 - .13 the Ozone-depleting Substances Record Book (regulation VI/12.6);
 - .14 the VOC Management Plan (regulation VI/15.6);
 - .15 any notification to the ship's flag Administration issued by the master or officer in charge of the bunker operation together with any available commercial documentation relevant to non-compliant bunker delivery, regulation VI/18.2; and
 - .16 if the ship has not been able to obtain compliant fuel oil, the notification to the ship's flag Administration and the competent authority of the relevant port of destination as set out in the appendix.

The Record Books referenced in sub-paragraphs .1, .5, .10 and .13 above may be presented in an electronic format. A declaration from the Administration should be viewed in order to accept this Electronic Record Book. If a declaration cannot be provided, a hard copy Record Book will need to be presented for examination.

* Unified Interpretation to regulation 13.5.3 set out in MEPC.1/Circ.795/Rev.4.

† In assessing the emission ratio and discharge water records the PSCO should be mindful that such factors as transient engine operation or analyser performance outputs may result in isolated "spikes" in the recorded output which, while these measurements in themselves may be above the required emission ratio or discharge water limit values, do not indicate that overall the EGCS was not being operated and controlled as required and hence should not be taken as evidence of non-compliance with the requirements.

2.1.3 As a preliminary check, the IAPP Certificate's validity should be confirmed by verifying that the Certificate is properly completed and signed and that required surveys have been performed.

2.1.4 Through examining the Supplement to the IAPP Certificate, the PSCO may establish how the ship is equipped for the prevention of air pollution.

2.1.5 In the case where the bunker delivery note or the representative sample as required by regulation VI/18 presented to the ship are not in compliance with the relevant requirements (the BDN is set out in appendix V of MARPOL Annex VI), the master or officer in charge of the bunker operation may have documented that through a Notification to the ship's flag Administration with copies to the port authority under whose jurisdiction the ship did not receive the required documentation pursuant to the bunkering operation and to the bunker deliverer.

2.1.6 In addition, if the BDN shows compliant fuel, but the master has independent test results of the fuel oil sample taken by the ship during the bunkering which indicates non-compliance, the master may have documented that through a Notification to the ship's flag Administration with copies to the competent authority of the relevant port of destination, the Administration under whose jurisdiction the bunker deliverer is located and to the bunker deliverer.

2.1.7 In all cases, a copy may be retained on board the ship, together with any available commercial documentation, for the subsequent scrutiny of port State control.

2.2 Initial inspection on ships equipped with equivalent means of SO_x compliance.

2.2.1 On ships equipped with equivalent means of compliance, the PSCO will look at:

- .1 evidence that the ship has received an appropriate approval for any installed equivalent means (approved, under trial or being commissioned);
- .2 evidence that the ship is using an equivalent means, as identified on the Supplement of the IAPP certificate, for fuel oil combustion units on board or that compliant fuel oil is used in equipment not so covered; and
- .3 BDNs on board* which indicate that the fuel oil is intended to be used in combination with an equivalent means of SO_x compliance or the ship is subject to a relevant exemption to conduct trials for SO_x emission reduction and control technology research.

2.2.2 In the case where an EGCS is not in compliance with the relevant requirements for other than transitory periods and isolated spikes in the recorded output, the master or officer in charge may have documented that through a Notification to the ship's flag Administration with copies to the competent authority of the relevant port of destination, and present those corrective actions taken in order to rectify the situation in accordance with the guidance given in the EGCS Technical Manual. If a malfunction occurs in the instrumentation for the monitoring of emission to air or the monitoring of washwater discharge to sea, the ship may have alternative documentation demonstrating compliance.†

* Resolution MEPC.305(73) on *Prohibition on the carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship* is not applicable to fuel oil carried as cargo or for ships fitted with an approved equivalent means of compliance.

† MEPC.1/Circ.883 on *Guidance on indication of ongoing compliance in the case of the failure of a single monitoring instrument, and recommended actions to take if the Exhaust Gas Cleaning System (EGCS) fails to meet the provisions of the 2015 EGCS Guidelines (resolution MEPC.259(68))*: ships should have documented notification of system non-compliance to relevant authorities as in paragraph 2.2.2.

2.3 Initial inspection within an ECA

2.3.1 When a ship is inspected in a port in an ECA designated for SO_x emission control, the PSCO should look at:

- .1 evidence of fuel oil delivered to and used on board with a sulphur content of not more than 0.10% m/m through the BDNs and appropriate onboard records including records of bunkering operations as set out in the Oil Record Book Part 1 (regulations VI/18.5 and VI/14.4); and
- .2 for those ships using separate fuel oils for compliance with regulation VI/14, evidence of a written procedure (in a working language or languages understood by the crew) and records of changeover to fuel oil with a sulphur content of not more than 0.10% m/m before entering the ECA such that compliant fuel was being used while sailing in the entire ECA as required in regulation VI/14.6.

2.3.2 When a ship to which regulation VI/13.5.1 applies for a particular NO_x Tier III emission control area is inspected in a port in that area, the PSCO should look at:

- .1 the records in respect of the tier and on/off status, together with any changes to that status while within that NO_x Tier III emission control area, which are to be logged as required by regulation VI/13.5.3 in respect of an installed marine diesel engine certified to both Tier II and Tier III or which is certified to Tier II only;^{*} and
- .2 the status of an installed marine diesel engine which is certified to both Tier II and Tier III showing that that engine was operating in its Tier III condition on entry into that NO_x Tier III emission control area and that status was maintained at all times while that marine diesel engine was in operation within that area; or
- .3 the records related to the conditions associated with an exemption granted under regulation VI/13.5.4, checking they have been logged as required by that exemption and that the terms and duration of that exemption have been complied with as required.

2.4 Initial inspection outside an ECA or first port after transiting an ECA

2.4.1 When a ship is inspected in a port outside the ECA the PSCO will look to the same documentation and evidence as during inspections in ports inside the ECA. The PSCO should in particular look at:

- .1 evidence that the sulphur content of the fuel oil is in accordance with regulation VI/14.1[†] through the BDNs and appropriate onboard records including records of bunkering operations as set out in the Oil Record Book Part 1 (regulations VI/18.5 and VI/14.4); and

^{*} Unified Interpretation to regulation 13.5.3 set out in MEPC.1/Circ.795/Rev.4.

[†] Resolution MEPC.305(73) on *Prohibition on the carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship* is not applicable to fuel oil carried as cargo or for ships fitted with an approved equivalent means of compliance.

- .2 evidence of a written procedure (in a working language or languages understood by the crew) and records of changeover from fuel oil with a sulphur content of not more than 0.10% m/m after leaving the ECA such that compliant fuel was being used while sailing in the entire ECA.

2.4.2 When a ship to which regulation VI/13.5.1 applies for a particular NO_x Tier III emission control area is inspected in a port outside that area, the PSCO should look at the records required by 2.3.2.1 and 2.3.2.2 or 2.3.2.3 to ensure that the relevant requirements were complied with for the whole period of time the ship was operating in that area.

2.5 Outcome of initial inspection

2.5.1 If the certificates and documents are valid and appropriate and, after an inspection of the ship to check that the overall condition of the ship meets generally accepted international rules and standards, the PSCO's general impressions and observations on board confirm a good standard of maintenance, the inspection should be considered satisfactorily concluded.

2.5.2 If, however, the PSCO's general impressions or observations on board give clear grounds (see paragraph 2.5.3) for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates or the documents, the PSCO should proceed to a more detailed inspection.

2.5.3 "Clear grounds" to conduct a more detailed inspection include:

- .1 evidence that certificates required by the Annex are missing or clearly invalid;
- .2 evidence that documents required by the Annex are missing or clearly invalid;
- .3 the absence or malfunctioning of equipment or arrangements specified in the certificates or documents;
- .4 the presence of equipment or arrangements not specified in the certificates or documents;
- .5 evidence from the PSCO's general impressions or observations that serious deficiencies exist in the equipment or arrangements specified in the certificates or documents;
- .6 information or evidence that the master or crew are not familiar with essential shipboard operations relating to the prevention of air pollution, or that such operations have not been carried out;
- .7 evidence of inconsistency between information in the bunker delivery note and paragraph 2.3 of the Supplement to the IAPP certificate;
- .8 evidence that an equivalent means has not been used as required; or
- .9 evidence, for example by fuel calculators, that the quantity of bunkered compliant fuel oil is inconsistent with the ship's voyage plan; and

- .10 receipt of a report or complaint containing information that the ship appears to be non-compliant including but not limited to information from remote sensing surveillance of SO_x emissions or portable fuel oil sulphur content measurement devices indicating that a ship appears to use non-compliant fuel while in operation/under way;
- .11 evidence that the tier and/or on/off status of applicable installed marine diesel engines has not been maintained correctly or as required;
- .12 receipt of a report or complaint containing information that one or more of the installed marine diesel engines has not been operated in accordance with the provisions of the respective Technical File or the requirements relevant to a particular NO_x Tier III emission control area; and
- .13 receipt of a report or complaint containing information that the conditions attached to an exemption granted under regulation VI/13.5.4 have not been complied with.

2.6 More detailed inspections

2.6.1 The PSCO should verify that:

- .1 there are effectively implemented maintenance procedures for the equipment containing ozone-depleting substances; and
- .2 there are no deliberate emissions of ozone-depleting substances.

2.6.2 In order to verify that each installed marine diesel engine with a power output of more than 130 kW is approved by the Administration in accordance with the NO_x Technical Code and maintained appropriately, the PSCO should pay particular attention to the following:

- .1 examine such marine diesel engines to be consistent with the EIAPP Certificate and its Supplement, Technical File and, if applicable, Record Book of Engine Parameters or Onboard Monitoring Manual and related data;
- .2 examine marine diesel engines specified in the Technical Files to verify that no unapproved modifications, which may affect NO_x emission, have been made to the marine diesel engines;
- .3 in the case of an installed marine diesel engine certified to Tier III, check that the required records, if applicable, in accordance with regulation VI/13.5.3 or in the Technical File, including those required by 2.3.6 of the NO_x Technical Code, have been maintained as necessary and that the marine diesel engine, including any NO_x control device and associated ancillary systems and equipment, including, where fitted, bypass arrangements, is maintained in accordance with the associated Technical File and is in good order;
- .4 if applicable, examine whether the conditions attached to an exemption granted under regulation VI/13.5.4 have been complied with as required;
- .5 examine marine diesel engines with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000 to verify that they are certified, if so required, in accordance with regulation VI/13.7;

- .6 in the case of ships constructed before 1 January 2000, verify that any marine diesel engine which has been subject to a major conversion, as defined in regulation VI/13, has been approved by the Administration; and
- .7 emergency marine diesel engines intended to be used solely in case of emergency are still in use for this purpose.

2.6.3 The PSCO should check and verify whether fuel oil complies with the provisions of regulation VI/14 taking into account appendix VI* of MARPOL Annex VI.

2.6.4 The PSCO should pay attention to the record required in regulation VI/14.6 in order to identify the sulphur content of fuel oil used by the ship depending on the area of trade, or that other equivalent approved means have been applied as required, the fuel oil consumed in and outside the ECA, and that there is enough fuel in compliance with regulation VI/14 to reach the next port destination.

2.6.5 Where EGCS is used, the PSCO should check that it has been installed and operated, together with its monitoring systems, in accordance with the associated approved documentation according to the survey procedures as established in the OMM.

2.6.6 If the ship is equipped with an EGCS as an equivalent means of SO_x compliance, the PSCO should verify that the system is properly functioning, is in operation, there are continuous-monitoring systems with tamper-proof data recording and processing devices,[†] if applicable, and the records demonstrate the necessary compliance when set against the limits given in the approved documentation and applies to relevant fuel combustion units on board. Checking can include but is not limited to emissions ratio, pH, PAH, turbidity readings as limit values given in ETM-A or ETM-B and operation parameters as listed in the system documentation.

2.6.7 If the ship is a tanker, as defined in regulation VI/2.21, the PSCO should verify that the vapour collection system approved by the Administration, taking into account MSC/Circ.585, is installed, if required under regulation VI/15.

2.6.8 If the ship is a tanker carrying crude oil, the PSCO should verify that there is on board an approved VOC Management Plan.

2.6.9 The PSCO should verify that prohibited materials are not incinerated.

2.6.10 The PSCO should verify that shipboard incineration of sewage sludge or sludge oil in boilers or marine power plants is not undertaken while the ship is inside ports, harbours or estuaries (regulation VI/16.4).

2.6.11 The PSCO should verify that the shipboard incinerator, if required by regulation VI/16.6.1, is approved by the Administration. For these units, it should be verified that the incinerator is properly maintained, therefore the PSCO should examine whether:

- .1 the shipboard incinerator is consistent with the certificate of shipboard incinerator;

* Amendments to MARPOL VI, appendix VI, *Verification procedures for a MARPOL Annex VI fuel oil sample (regulation 18.8.2 or regulation 14.8)*, expected to be adopted in spring 2020 and set out in annex 13 to document MEPC 74/18/Add.1.

[†] Equivalent emission values for emission abatement methods are 4.3 and 21.7 SO₂ (ppm)/CO₂ (% v/v) for marine fuels with a sulphur content of 0.10 and 0.50 (% m/m) respectively.

- .2 the operational manual, in order to operate the shipboard incinerator within the limits provided in appendix IV to the Annex, is provided; and
- .3 the combustion chamber flue gas outlet temperature is monitored at all times the unit is in operation (regulation VI/16.9).

2.6.12 If there are clear grounds as defined in paragraph 2.5.3, the PSCO may examine operational procedures by confirming that:

- .1 the master or crew are familiar with the procedures to prevent emissions of ozone-depleting substances;
- .2 the master or crew are familiar with the proper operation and maintenance of marine diesel engines, in accordance with their Technical Files or Approved Method file, as applicable, and with due regard for emission control areas for NO_x control;
- .3 the master or crew are familiar with fuel oil bunkering procedures in connection to the respective bunker delivery notes and onboard records including the Oil Record Book Part 1 (regulations VI/18.5 and VI/14.4) and retained samples as required by regulation VI/18;
- .4 the master or crew are familiar with the correct operation of an EGCS or other equivalent means on board together with any applicable monitoring and recording, and record keeping requirements;
- .5 the master or crew are familiar and have undertaken the necessary fuel oil changeover procedures, or equivalent, associated with demonstrating compliance within an emission control area;
- .6 the master or crew are familiar with the garbage screening procedure to ensure that prohibited garbage is not incinerated;
- .7 the master or crew are familiar with the operation of the shipboard incinerator, as required by regulation VI/16.6, within the limits provided in appendix IV to the Annex, in accordance with its operational manual;
- .8 the master or crew are familiar with the regulation of emissions of VOCs, when the ship is in ports or terminals under the jurisdiction of a Party to the 1997 Protocol to MARPOL 73/78 in which VOCs emissions are to be regulated, and are familiar with the proper operation of a vapour collection system approved by the Administration (in case the ship is a tanker as defined in regulation VI/2.21); and
- .9 the master or crew are familiar with the application of the VOC Management Plan, if applicable.

2.7 Detainable deficiencies

2.7.1 In exercising his or her functions, the PSCO should use professional judgement to determine whether to detain the ship until any noted deficiencies are corrected or to allow it to sail with certain deficiencies which do not pose an unreasonable threat of harm under the scope of the Annex provided they will be addressed in a timely manner. In doing this, the PSCO should be guided by the principle that the requirements contained in the Annex, with respect to the construction, equipment and operation of the ship, are essential for the protection of the

marine environment, navigational safety or human health and that departure from these requirements could constitute an unreasonable threat of harm to the protection aspects mentioned and should be avoided.

2.7.2 In order to assist the PSCO in the use of these Guidelines, there follows a list of deficiencies which are considered, taking into account the provisions of regulation VI/3, to be of such a serious nature that they may warrant the detention of the ship involved:

- .1 absence of valid IAPP Certificate, EIAPP Certificates or Technical Files, if applicable;
- .2 a marine diesel engine, with a power output of more than 130 kW, which is installed on board a ship constructed on or after 1 January 2000, or a marine diesel engine having undergone a major conversion on or after 1 January 2000, which does not conform to its Technical File, or where the required records have not been maintained as necessary or where it has not met the applicable requirements of the particular NO_x Tier III emission control area in which it is operating;
- .3 a marine diesel engine, with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres, which is installed on board a ship constructed on or after 1 January 1990 but prior to 1 January 2000, and an approved method for that engine has been certified by an Administration and was commercially available, for which an approved method is not installed after the first renewal survey specified in regulation VI/13.7.2;
- .4 on ships not equipped with equivalent means of SO_x compliance, based on the methodology of sample analysis in accordance with appendix VI* of MARPOL Annex VI, the sulphur content of any fuel oil being used or carried for use on board exceeds the applicable limit required by regulation VI/14. If the master claims that it was not possible to bunker compliant fuel oil, the PSCO should take into account the provisions of regulation VI/18.2 (see the appendix).
- .5 on ships equipped with equivalent means of SO_x compliance, absence of an appropriate approval for the equivalent means, which applies to relevant fuel combustion units on board. With regard to combustion units not connected to an EGCS, the sulphur content of any fuel oil being used on these combustion units exceeds the limits stipulated in regulation VI/14, taking into account the provisions of regulation VI/18.2 (see the appendix).
- .6 non-compliance with the relevant requirements while operating within an emission control area for SO_x and particulate matter control;
- .7 an incinerator installed on board the ship on or after 1 January 2000 does not comply with requirements contained in appendix IV to the Annex, or the standard specifications for shipboard incinerators developed by the Organization (resolutions MEPC.76(40) and MEPC.244(66)); and

* Amendments to MARPOL VI, appendix VI, Verification procedures for a MARPOL Annex VI fuel oil sample (regulation 18.8.2 or regulation 14.8), expected to be adopted in spring 2020 and set out in annex 13 to document MEPC 74/18/Add.1.

- .8 the master or crew are not familiar with essential procedures regarding the operation of air pollution prevention equipment as defined in paragraph 2.5.12 above.

Chapter 3 INSPECTIONS OF SHIPS OF NON-PARTIES TO THE ANNEX AND OTHER SHIPS NOT REQUIRED TO CARRY THE IAPP CERTIFICATE

3.1 As this category of ships is not provided with the IAPP Certificate, the PSCO should judge whether the condition of the ship and its equipment satisfies the requirements set out in the Annex. In this respect, the PSCO should take into account that, in accordance with article 5(4) of MARPOL, no more favourable treatment is to be given to ships of non-Parties.

3.2 In all other respects the PSCO should be guided by the procedures for ships referred to in chapter 2 and should be satisfied that the ship and crew do not present a danger to those on board or an unreasonable threat of harm to the marine environment.

3.3 If the ship has a form of certification other than the IAPP Certificate, the PSCO may take such documentation into account in the evaluation of the ship.

Appendix

NON-AVAILABILITY OF COMPLIANT FUEL OIL CLAIMED

In case non-availability of compliant fuel oil is claimed the master/owner must present a record of actions taken to attempt to bunker compliant fuel oil and provide evidence:

- .1 of attempts to purchase compliant fuel oil in accordance with its voyage plan;
- .2 if the fuel oil was not made available where expected, that attempts were made to locate alternative sources for such fuel oil; and
- .3 that despite best efforts to obtain compliant fuel oil no such fuel oil was made available for purchase.

Best efforts to procure compliant fuel oil include, but are not limited to, investigating alternative sources of fuel oil prior to commencing the voyage or en route.

The ship should not be required to deviate from its intended voyage or to unduly delay the voyage in order to achieve compliance.

If the ship provides the information, as above, the port State should take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.

The master/owner may provide evidence as below to support their claim (not exhaustive):

- .1 a copy (or description) of the ship's voyage plan, including the ship's port of origin and port of destination;
- .2 the time the ship first received notice it would be conducting a voyage involving transit/arrival in the port and the ship's location when it first received such notice;
- .3 a description of the actions taken to attempt to achieve compliance, including a description of all attempts that were made to locate alternative sources of compliant fuel oil, and a description of the reason why compliant fuel was not available (e.g. compliant fuel oil was not available at ports on the "intended voyage", fuel oil supply disruptions at port);
- .4 the cost of compliant fuel is not considered to be a valid basis for claiming non-availability of fuel;
- .5 names and addresses of the fuel oil suppliers contacted and the dates on which contact was made;
- .6 in cases of fuel oil supply disruption, the name of the port at which the ship was scheduled to receive compliant fuel oil and the name of the fuel supplier that is reporting the non-availability of compliant fuel oil;
- .7 the availability of compliant fuel oil at the next port-of-call and plans to obtain that fuel oil; and

- .8 if applicable, identification and description of any operational constraints that prevented use of compliant fuel oil, e.g. with respect to viscosity or other fuel oil parameters.

If, despite best efforts, it was not possible to procure compliant fuel oil the master/owner must notify the port State control authorities in the port of arrival and the flag Administration (regulation VI/18.2.4).

Appendix 19

LIST OF INSTRUMENTS RELEVANT TO PORT STATE CONTROL PROCEDURES

Instrument (related to)	Name	IMO Body	Remark	Year (adopted/ approved)
AFS				
MEPC.104(49)	Guidelines for brief sampling of anti-fouling systems on ships	III		18 July 2003
MEPC.208(62)	2011 Guidelines for inspection of anti-fouling systems on ships	III		15 July 2011
Ballast Water				
MEPC.173(58)	Guidelines for ballast water sampling (G2)	MEPC/PPR	To be read in conjunction with MEPC.252(67) and BWM.2/Circ.42/Rev.1	10 October 2008
MEPC.252(67)	Guidelines for port State control under the BWM Convention	MEPC/III	To be read in conjunction with MEPC.173(58) and BWM.2/Circ.42/Rev.1	17 October 2014
MEPC.279(70)	2016 Guidelines for approval of ballast water management systems (G8)	MEPC		28 October 2016
MEPC.297(72)	Amendments to regulation B-3 (Implementation schedule of ballast water management for ships)	MEPC		13 April 2018
BWM.2/Circ.42/Rev.1 and Corr.1	Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)	MEPC/PPR	To be read in conjunction with MEPC.173(58) and MEPC.252(67)	28 May 2015 30 June 2015
Bulk				
A.797(19)	Safety of ships carrying solid bulk cargoes	CCC		23 November 1995
A.862(20)	Code of practice for safe loading and unloading of bulk carriers	CCC	As amended by MSC.238(82) and MSC.304(87)	27 November 1997
MSC/Circ.656	Safety of ships carrying solid bulk cargoes	CCC		6 June 1994

Instrument (related to)	Name	IMO Body	Remark	Year (adopted/ approved)
MSC/Circ.1117	Guidance for checking the structure of bulk carriers	SSE		24 June 2004
MSC.1/Circ.1464/Rev.1, Corr.1 and Corr.2	Unified interpretations of the provisions of SOLAS chapters II-1 and XII, of the Technical provisions for means of access for inspections (resolution MSC.158(78)) and of the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (resolution MSC.188(79))	SSE	As amended by MSC.1/Circ.1507 of 5 June 2015	24 October 2013 14 November 2013 9 June 2017
Certificates				
MSC/Circ.606	Port State concurrence with SOLAS exemptions	III		12 February 1993
MSC/Circ.1012 MEPC/Circ.384	Endorsement of certificates with the date of completion of the survey on which they are based	III		26 June 2001
MSC/Circ.1586- MEPC/Circ.873- FAL.2/Circ.131- LEG.2/Circ.3 and Corr.1	List of certificates and documents required to be carried on board ships, 2017	III		19 July 2017 4 June 2018
MSC-MEPC.4/Circ.1	Retention of original records/documents on board ships	III		26 September 2005
MSC-MEPC.5/Circ.6	Guidance on the timing of replacement of existing certificates by the certificates issued after the entry into force of amendments to certificates in IMO instruments	III		6 August 2009
MARPOL				
MEPC.259(68)	2015 Guidelines for exhaust gas cleaning systems	MEPC/PPR	Read in conjunction with MEPC68/21/Add.1/ Corr.2	15 May 2015
MSC.286(86)	Recommendations for material safety data sheets (MSDS) for MARPOL Annex I oil cargo and oil fuel	PPR		5 June 2009
MEPC.312(74)	Guidelines for the use of electronic record books under MARPOL	MEPC		17 May 2019

MEPC.320(74)	2019 Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI	MEPC		17 May 2019
MEPC.321(74)	2019 Guidelines for port State control under MARPOL Annex VI Chapter 3	MEPC		17 May 2019
MSC.465(101)	Recommended interim measures to enhance the safety of ships relating to the use of oil fuel	MSC		14 June 2019
MEPC/Circ.479 and Corr.1	Guidelines for port State control officers whilst checking compliance with the Condition Assessment Scheme (CAS)	MEPC/III		24 August 2005 6 October 2005
MEPC.1/Circ.508	Bunker delivery note and fuel oil sampling	MEPC/III		9 May 2006
MEPC.1/Circ.516	Public access to the condition assessment scheme (CAS) database	MEPC		5 May 2006
MEPC.1/Circ.637	Fuel oil availability and quality	MEPC		17 November 2008
MEPC.1/Circ.640	Interim guidance on the use of the oil record book concerning voluntary declaration of quantities retained on board in oily bilge water holding tanks and heating of oil residue (sludge)	SSE		4 November 2008
MEPC.1/Circ.675/Rev.1	Discharge of cargo hold washing water in the Gulfs Area, Mediterranean Sea Area and Wider Caribbean Region under MARPOL Annex V	MEPC		26 March 2010
MEPC.1/Circ.834/Rev.1	Consolidated guidance for port reception facility providers and users	MEPC		1 March 2018
MEPC.1/Circ.864/Rev.1	2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships	MEPC		21 May 2019
MEPC.1/Circ.881	Guidance for port State control on contingency measures for addressing non-compliant fuel oil	MEPC		21 May 2019
MEPC.1/Circ.882	Early application of the verification procedures for a MARPOL Annex VI fuel oil sample (regulation 18.82 and 14.8)	MEPC		16 July 2019
MEPC.1/Circ.883	Guidance on indication of ongoing compliance in the case of the failure of a single monitoring instrument, and recommended actions to take if the Exhaust Gas Cleaning System (EGCS) fails to meet the provisions of the 2015 EGCS Guidelines (resolution MEPC.259(68))	MEPC		21 May 2019

MSC-MEPC.4/Circ.3	Blanking of bilge discharge piping systems in port	MSC/MEPC		19 December 2008
PSC activities				
MSC.1/Circ.1191	Further reminder of the obligation to notify flag States when exercising control and compliance measures	MSC/III		30 May 2006
MSC.1/Circ.1199	Interim guidance on compliance of ships carrying dry cargoes in bulk with requirements of SOLAS chapters II-1, III, IX, XI-1 and XII	SSE		31 May 2006
MSC.1/Circ.1221	Validity of type approval certification for marine products	III		11 December 2006
MSC.1/Circ.1565	Guidelines on the voluntary early implementation of amendments to the 1974 SOLAS Convention and related mandatory instruments	III		15 June 2017
MSC/Circ.1011 MEPC/Circ.383	Measures to improve port State control procedures	III		26 June 2001
MSC-MEPC.2/Circ.2	IMO requirements on carriage of publications on board ships	III/NCSR		1 June 2006
MSC-MEPC.4/Circ.2	Code of good practice for port State control officers	MSC/MEPC		1 November 2007
Security				
MSC.159(78)	Interim guidance on control and compliance measures to enhance maritime security	MSC/III		21 May 2004
MSC/Circ.1097	Guidance relating to the implementation of SOLAS chapter XI-2 and the ISPS Code	MSC		6 June 2003

MSC/Circ.1113	Guidance to port State control officers on the non-security related elements of the 2002 SOLAS amendment	MSC	Automatic Identification Systems (AIS) and ship's identification number, and, Continuous Synopsis Record (CSR) Read in conjunction with A.959(23), adopted on 5 December 2003, Format and guidelines for the maintenance of the Continuous Synopsis Record (CSR), as amended by MSC.198(80), adopted on 20 May 2005	7 June 2004
MSC/Circ.1156	Guidance on the access of public authorities, emergency response services and pilots on board ships to which SOLAS chapter XI-2 and the ISPS Code apply	MSC	Read in conjunction with MSC.1/Circ.1342 of 27 May 2010, Reminder in connection with shore leave and access to ships (and MSC.1/Circ.1194 of 30 May 2006)	23 May 2005
MSC.1/Circ.1235	Guidelines on security-related training and familiarization for shipboard personnel	HTW		21 October 2007
MSC.1/Circ.1342	Reminder in connection with shore leave and access to ships	MSC		27 May 2010
SOLAS				
A.1047(27)	Principles of minimum safe manning	MSC/HTW		30 November 2011

MSC/Circ.592	Carriage of dangerous goods	CCC		21 April 1992
MSC/Circ.811	Identification of float-free arrangements for liferafts	SSE		8 July 1997
MSC/Circ.887	Interpretation of the term "other strategic points" in SOLAS regulation III/50 and LSA Code section VII/7.2	SSE		21 December 1998
MSC/Circ.907	Application of SOLAS regulation III/28.2 concerning helicopter landing areas on non ro-ro passenger ships	SSE		17 June 1999
MSC/Circ.955	Servicing of life-saving appliances and radiocommunication equipment under the harmonized system of survey and certification (HSSC)	III		23 June 2000
MSC/Circ.1016	Application of SOLAS regulation III/26 concerning fast rescue boats and means of rescue systems on ro-ro passenger ships	SSE	Complemented by MSC/Circ.1094 of 17 June 2003, Application of SOLAS regulation III/26 concerning fast rescue boat systems on ro-ro passenger ships	26 June 2001
MSC/Circ.1107	Application of SOLAS regulation II-1/3-6 on Access to and within spaces in, and forward of, the cargo area of oil tankers and bulk carriers and application of the Technical provisions for means of access for inspections	CCC		25 May 2004
MSC.1/Circ.1326 and Corr.1	Clarification of SOLAS regulation III/19	SSE	Note: SOLAS regulation III/19.3.3.3 as referred to in the circular should be read as SOLAS regulation III/19.3.4.3 as the 2013 amendments to SOLAS renumbered	11 June 2009 13 August 2009

			paragraph 19.3.3.3 as 19.3.4.3	
MSC.1/Circ.1331	Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation	SSE		11 June 2009
MSC.1/Circ.1402	Safety of pilot transfer arrangements	III		14 June 2011
STCW				
STCW.7/Circ.22	Advice for port State control officers, recognized organizations and recognized security organizations clarifying training and certification requirements for ship security officers and seafarers with designated security duties	MSC/HTW		25 February 2014
STCW.7/Circ.24/Rev.1	Guidance for Parties, Administrations, port State control authorities, recognized organizations and other relevant parties on the requirements under the STCW Convention, 1978, as amended	III/HTW		16 June 2017
MSC/Circ.635	Tonnage measurement of certain ships relevant to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978	SDC		15 June 1994
MSC/Circ.1089	Guidance on recommended anti-fraud measures and forgery prevention measures for seafarers' certificate	III/HTW		6 June 2003
MSC.1/Circ.1208	Promoting and verifying continued familiarization of GMDSS operators on board ships	HTW		22 May 2006

ASSEMBLY
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**Adopted on 4 December 2019
(Agenda item 10)**

**SURVEY GUIDELINES UNDER THE HARMONIZED SYSTEM
OF SURVEY AND CERTIFICATION (HSSC), 2019**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines regarding maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO the adoption by:

- (a) the International Conference on the Harmonized System of Survey and Certification, 1988 of the Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974 and of the Protocol of 1988 relating to the International Convention on Load Lines, 1966, which, inter alia, introduced the harmonized system of survey and certification into the International Convention for the Safety of Life at Sea, 1974 and the International Convention on Load Lines, 1966, respectively;
- (b) resolution MEPC.39(29) of amendments to introduce the harmonized system of survey and certification into the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL);
- (c) resolution MEPC.132(53) of amendments to introduce the harmonized system of survey and certification into MARPOL Annex VI;
- (d) the International Conference on Ballast Water Management for Ships of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, which included the harmonized system of survey and certification; and
- (e) the resolutions given below of amendments to introduce the harmonized system of survey and certification into:

- (i) the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (resolutions MEPC.40(29) and MSC.16(58));
- (ii) the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) (resolution MSC.17(58)); and
- (iii) the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) (resolutions MEPC.41(29) and MSC.18(58)),

RECALLING FURTHER resolution A.1120(30), by which it adopted the *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2017* (hereafter referred to as the "Survey Guidelines"), following successive revocation of resolutions A.1104(29), A.1076(28), A.1020(26), A.997(25), A.948(23) and A.746(18), replacing the guidelines adopted by resolutions A.560(14), MEPC.11(18) and MEPC.25(23),

RECOGNIZING the need for the Survey Guidelines to be further revised to take into account the amendments to the IMO instruments referred to above which have entered into force or become effective since the adoption of resolution A.1120(30),

HAVING CONSIDERED the recommendations made by the Marine Environment Protection Committee, at its seventy-fourth session, and the Maritime Safety Committee, at its 101st session,

1 ADOPTS the *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2019*, as set out in the annex to the present resolution;

2 INVITES Governments carrying out surveys required by relevant IMO instruments to apply the provisions of the annexed Survey Guidelines;

3 REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Survey Guidelines under review and to amend them as necessary;

4 REVOKES resolution A.1120(30).

ANNEX

SURVEY GUIDELINES UNDER THE HARMONIZED SYSTEM OF SURVEY AND CERTIFICATION (HSSC), 2019

(These Guidelines take into account relevant IMO mandatory instruments and amendments thereto entering into force before or on 31 December 2019)

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GENERAL

1 INTRODUCTION

1.1 These Guidelines supersede the guidelines adopted by resolution A.1120(30), and take account of the harmonized system of survey and certification in the following instruments:

- .1 International Convention for the Safety of Life at Sea, 1974 (1974 SOLAS Convention, or SOLAS 74), as modified by the Protocol of 1988 relating thereto, as amended (SOLAS 74/88);
- .2 International Convention on Load Lines, 1966 (1966 LL Convention, or LLC 66), as modified by the Protocol of 1988 relating thereto, as amended (LLC 66/88);
- .3 International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, and as further amended by the Protocol of 1997, as amended (MARPOL);
- .4 International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as amended (BWM Convention));
- .5 International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, as amended (IBC Code);
- .6 International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, as amended (IGC Code);
- .7 Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, as amended (BCH Code); and
- .8 International Code for Ships Operating in Polar Waters (Polar Code).

1.2 These Guidelines take into account the amendments to statutory instruments which entered into force before or on 31 December 2019 (see appendix 1), and contain the following:

- .1 Survey Guidelines under the 1974 SOLAS Convention, as modified by the Protocol of 1988 relating thereto (annex 1);
- .2 Survey Guidelines under the 1966 LL Convention, as modified by the Protocol of 1988 relating thereto (annex 2);
- .3 Survey Guidelines under the MARPOL Convention (annex 3);
- .4 Survey Guidelines under the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (annex 4); and
- .5 Survey Guidelines under mandatory codes (annex 5).

1.3 The harmonized system, a diagrammatic arrangement of which is given in appendix 2, provides for:

- .1 a one-year standard interval between surveys, based on initial, annual, intermediate, periodical and renewal surveys, as appropriate, except for MARPOL Annex IV, which is based on initial and renewal surveys;
- .2 a scheme providing the necessary flexibility to execute each survey, with provision for:
 - .1 completion of the renewal survey within three months before the expiry date of the existing certificate with no loss of its period of validity; and
 - .2 a "time window" of six months – from three months before to three months after the anniversary date of the certificate for annual, intermediate and periodical surveys;
- .3 a maximum period of validity of five years for all cargo ship certificates;
- .4 a maximum period of validity of 12 months for the Passenger Ship Safety Certificate;
- .5 a system for the extension of certificates limited to three months, enabling a ship to complete its voyage, or one month for ships engaged on short voyages;
- .6 when an extension has been granted, the period of validity of the new certificate starting from the expiry date of the existing certificate before its extension;
- .7 a flexible system for inspection of the outside of the ship's bottom on the following conditions:
 - .1 a minimum of two inspections during any five-year period of validity of the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate; and
 - .2 the interval between any two such inspections should not exceed 36 months;
- .8 a Cargo Ship Safety Certificate under SOLAS 74/88, as an alternative to separate Cargo Ship Safety Construction, Cargo Ship Safety Equipment and Cargo Ship Safety Radio Certificates; and
- .9 a flexible system concerning the frequency and the period of validity of certificates, subject to the minimum pattern of surveys being maintained.

1.4 In implementing the harmonized system, the following principal changes made to the survey and certification requirements of SOLAS 74/88 have been taken into account:

- .1 unscheduled inspections are no longer included and annual surveys are mandatory for cargo ships;

- .2 intervals between the periodical surveys of equipment covered by the Cargo Ship Safety Equipment Certificate are alternately two and three years instead of two years;
- .3 intermediate surveys are required for all ships under the Cargo Ship Safety Construction Certificate;
- .4 inspection of the outside of the ship's bottom is required for all cargo ships;
- .5 intermediate surveys for the Cargo Ship Safety Construction Certificate are held within three months of either the second or third anniversary date;
- .6 all cargo ship certificates may be issued for any period of validity up to and including five years;
- .7 there is provision for a Cargo Ship Safety Certificate; and
- .8 the extension provisions have been reduced from five months to three months to enable a ship to complete its voyage and the extension for one month for a period of grace is limited to ships engaged on short voyages.

1.5 With regard to LLC 66/88, the principal changes to the requirements for survey and certification are the introduction of similar extension provisions (see 1.4.8) and linking of the period of validity of the new certificate to the expiry date of the previous certificate (see 1.3.6).

1.6 With regard to MARPOL and the IBC, IGC and BCH Codes, the main changes are the linking of the period of validity of the new certificate to the expiry date of the previous certificate (see 1.3.6), the holding of the intermediate survey within three months of the second or third anniversary date and the introduction of the same extension provisions (see 1.4.8).

2 TYPES OF SURVEY

The types of survey used in the harmonized system are as follows:

- (I) 2.1 *An initial survey* is a complete inspection before a ship is put into service of all the items relating to a particular certificate, to ensure that the relevant requirements are complied with and that these items are satisfactory for the service for which the ship is intended.
- (P) 2.2 *A periodical survey* is an inspection of the items relating to the particular certificate to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended.
- (R) 2.3 *A renewal survey* is the same as a periodical survey but also leads to the issue of a new certificate.
- (In) 2.4 *An intermediate survey* is an inspection of specified items relevant to the particular certificate to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended.
- (A) 2.5 *An annual survey* is a general inspection of the items relating to the particular certificate to ensure that they have been maintained and remain satisfactory for the service for which the ship is intended.

- (B) 2.6 *An inspection of the outside of the ship's bottom* is an inspection of the underwater part of the ship and related items to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended.
- (Ad) 2.7 *An additional survey* is an inspection, either general or partial according to the circumstances, to be made after:
- .1 a repair resulting from investigations or whenever any important repairs or renewals are made; or,
 - .2 change, replacement, or significant repair of the structure, equipment, systems, fittings, arrangements and material (BWM Convention regulation E-1.1.5).
- 2.8 List of types of survey in conventions and codes
- (I) 2.8.1 *Initial surveys*
- SOLAS 74/88 regulations I/7(a)(i) and 7(b)(i)
 regulations I/8(a)(i) and 8(b)(i)
 regulations I/9(a)(i) and 9(b)(i)
 regulations I/10(a)(i) and 10(b)(i)
- LLC 66/88 article 14(1)(a)
 MARPOL Annex I regulation 6.1.1
 MARPOL Annex II regulation 8.1.1
 MARPOL Annex IV regulation 4.1.1
 MARPOL Annex VI regulation 5.1.1
 BWM Convention regulation E-1.1.1
 IBC Code regulation 1.5.2.1.1
 IGC Code regulation 1.4.2.1
 BCH Code regulation 1.6.2.1.1
- (P) 2.8.2 *Periodical surveys*
- SOLAS 74/88 regulations I/8(a)(iii) and 8(b)(ii)
 regulations I/9(a)(iii) and 9(b)(ii)
- (R) 2.8.3 *Renewal surveys*
- SOLAS 74/88 regulations I/7(a)(ii) and 7(b)(ii)
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 regulations I/10(a)(ii) and 10(b)(ii)
- LLC 66/88 article 14(1)(b)
 MARPOL Annex I regulation 6.1.2
 MARPOL Annex II regulation 8.1.2
 MARPOL Annex IV regulation 4.1.2
 MARPOL Annex VI regulation 5.1.2
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 IBC Code regulation 1.5.2.1.2
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(In) 2.8.4 *Intermediate surveys*

SOLAS 74/88 regulations I/10(a)(iii) and 10(b)(iii)
MARPOL Annex I regulation 6.1.3
MARPOL Annex II regulation 8.1.3
MARPOL Annex VI regulation 5.1.3
BWM Convention regulation E-1.1.3
IBC Code regulation 1.5.2.1.3
IGC Code regulation 1.4.2.3
BCH Code regulation 1.6.2.1.3

(A) 2.8.5 *Annual surveys*

SOLAS 74/88 regulations I/8(a)(iv), 8(b)(iii), and 10(a)(iv) and 10(b)(iv)
LLC 66/88 article 14(1)(c)
MARPOL Annex I regulation 6.1.4
MARPOL Annex II regulation 8.1.4
MARPOL Annex VI regulation 5.1.4
BWM Convention regulation E-1.1.4
IBC Code regulation 1.5.2.1.4
IGC Code regulation 1.4.2.4
BCH Code regulation 1.6.2.1.4

(B) 2.8.6 *Inspection of the outside of the ship's bottom*

SOLAS 74/88 regulations I/10(a)(v) and 10(b)(v)

(Ad) 2.8.7 *Additional surveys*

SOLAS 74/88 regulations I/7(a)(iii) and 7(b)(iii)
regulation I/8(a)(v)
regulation I/9(a)(iv)
regulation I/10(a)(vi)

MARPOL Annex I regulation 6.1.5
MARPOL Annex II regulation 8.1.5
MARPOL Annex IV regulation 4.1.3
MARPOL Annex VI regulation 5.1.5
BWM Convention regulation E-1.1.5
IBC Code regulation 1.5.2.1.5
IGC Code regulation 1.4.2.5
BCH Code regulation 1.6.2.1.5

3 APPLICATION AND ARRANGEMENT OF THE GUIDELINES

3.1 The Guidelines provide a general framework upon which Administrations will be able to base their arrangements for carrying out surveys. It is recognized that survey provisions contained in the Guidelines are not necessarily applicable to all types and sizes of ship.

3.2 While the Guidelines are intended to cover instruments listed in 1.1, they should be applied, as appropriate, to drilling rigs and other platforms covered by MARPOL Annex I regulation 39 and Annex VI regulation 5.

3.3 A description of the various types of survey is given in section 4 and, as shown on the contents page, this is followed by the detailed requirements for the various surveys for each of the certificates.

3.4 When appropriate, the detailed requirements for the various surveys contain a section that is applicable to all cargo ships followed by a section that only applies to specific ship types.

3.5 While the convention or code references are included, where possible, it should be noted that, in general, it has not been possible to indicate where there are differing requirements dependent upon the ship's year of build. Consequently, care should be taken in applying specific requirements, particularly where there have been amendments that are only applicable to ships built after a certain date.

3.6 Although also part of the requirements for the Cargo Ship Safety Construction Certificate, a separate section is provided for inspection of the outside of the ship's bottom.

3.7 SOLAS 74/88 regulation 1/12(v) provides for a Cargo Ship Safety Certificate to be issued as an alternative to the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Construction Certificate and the Cargo Ship Safety Radio Certificate. Consequently, the surveys for the issue and renewal of the Cargo Ship Safety Certificate should be in accordance with the certificates it replaces and, similarly, the annual and intermediate surveys should be the same as those required for the replaced certificates and the appropriate sections of the Cargo Ship Safety Certificate, endorsed accordingly.

3.8 On the left-hand side of each item to be surveyed may be found two or three letters in brackets, the first indicating the certificate to which the survey relates, as follows:

- (E) for the Cargo Ship Safety Equipment Certificate;
- (C) for the Cargo Ship Safety Construction Certificate;
- (R) for the Cargo Ship Safety Radio Certificate;
- (L) for the International Load Line Certificate;
- (O) for the International Oil Pollution Prevention Certificate;
- (N) for the International Pollution Prevention Certificate for Carriage of Noxious Liquid Substances in Bulk;
- (S) for the International Sewage Pollution Prevention Certificate;
- (A) for the International Air Pollution Prevention Certificate;
- (D) for the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (G) for the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (P) for the Passenger Ship Safety Certificate;
- (W) for the Polar Ship Certificate;
- (B) for the International Ballast Water Management Certificate;

and the second and third letters the type of survey, as follows:

- (I) for the initial survey;
- (A) for the annual survey;
- (In) for the intermediate survey;
- (P) for the periodical survey;
- (R) for the renewal survey;
- (B) for inspection of the outside of the ship's bottom;
- (Ad) for an additional survey.

Accordingly, "(EI)", "(OIn)" and "(PR)", for example, indicate the initial survey for the Cargo Ship Safety Equipment Certificate, the intermediate survey for the International Oil Pollution Prevention Certificate and the renewal survey for the Passenger Ship Safety Certificate, respectively.

3.9 For the application of these Guidelines, the following guidance on terms used in the survey requirements is provided:

- .1 "Examining", except where used in "examining the plans" or "examining the design", should be understood as an examination, using appropriate techniques, of the components, system or appliance in question for satisfactory provision, arrangement and condition and for any signs of defects, deterioration or damage. The extent of this examination shall be adapted by the surveyor considering the type of survey performed (e.g. initial, annual, renewal) and the actual maintenance condition of the ship and its equipment;
- .2 "Testing" should be understood as a functional test of the system or appliance in question, to confirm its satisfactory operation and performance for its intended use.

3.10 The amplification of various terms and conditions is given in section 5.

4 DESCRIPTION OF THE VARIOUS TYPES OF SURVEY

(I) 4.1 Initial surveys

4.1.1 Frequency

The initial survey, as required by the relevant regulations (see 2.8.1), should be held before the ship is put in service, or when a new instrument applies to an existing ship, and the appropriate certificate is issued for the first time.

4.1.2 General

4.1.2.1 The initial survey should include a complete inspection, with tests when necessary, of the structure, machinery and equipment to ensure that the requirements relevant to the particular certificate are complied with and that the structure, machinery and equipment are fit for the service for which the ship is intended.

4.1.2.2 The initial survey should consist of:

- .1 an examination of the plans, diagrams, specifications, calculations and other technical documentation to verify that the structure, machinery and equipment comply with the requirements relevant to the particular certificate;
- .2 an inspection of the structure, machinery and equipment to ensure that the materials, scantlings, construction and arrangements, as appropriate, are in accordance with the approved plans, diagrams, specifications, calculations and other technical documentation and that the workmanship and installation are in all respects satisfactory; and
- .3 a check that all the certificates, record books, operating manuals and other instructions and documentation specified in the requirements relevant to the particular certificate have been placed on board the ship.

4.1.3 *Examination of plans and designs*

An application for an initial survey should be accompanied by plans and designs referred to in sections 1, 2, 4 and 5 of annex 1 and in annexes 2, 3, 4 and 5, as appropriate, together with:

- .1 the particulars of the ship;
- .2 any exemptions sought; and
- .3 any special conditions.

(A) 4.2 Annual surveys

4.2.1 *Frequency*

The annual survey, as required by the relevant regulations (see 2.8.5) and as shown diagrammatically in appendix 2, should be held within three months before or after each anniversary date of the certificate.

4.2.2 *General*

4.2.2.1 An annual survey should enable the Administration to verify that the condition of the ship, its machinery and equipment is being maintained in accordance with the relevant requirements.

4.2.2.2 In general, the scope of the annual survey should be as follows:

- .1 it should consist of a certificate examination, a visual examination of a sufficient extent of the ship and its equipment, and certain tests to confirm that their condition is being properly maintained;
- .2 it should also include a visual examination to confirm that no unapproved modifications have been made to the ship and its equipment;
- .3 the content of each annual survey is given in the respective guidelines; the thoroughness and stringency of the survey should depend upon the condition of the ship and its equipment; and

- .4 should any doubt arise as to the maintenance of the condition of the ship or its equipment, further examination and testing should be conducted as considered necessary.

4.2.3 Where an annual survey has not been carried out within the due dates, reference should be made to 5.6.

(In) 4.3 Intermediate surveys

4.3.1 Frequency

The intermediate survey, as required by the relevant regulations (see 2.8.4) and as shown diagrammatically in appendix 2, should be held within three months before or after the second anniversary date or within three months before or after the third anniversary date of the appropriate certificate and should take the place of one of the annual surveys.

4.3.2 General

4.3.2.1 The intermediate survey should be an inspection of items relevant to the particular certificate to ensure that they are in a satisfactory condition and are fit for the service for which the ship is intended.

4.3.2.2 When specifying items of hull and machinery for detailed examination, due account should be taken of any continuous survey schemes that may be applied by classification societies.

4.3.2.3 Where an intermediate survey has not been carried out within the due dates, reference should be made to 5.6.

(P) 4.4 Periodical surveys

4.4.1 Frequency

The periodical survey, as required by the relevant regulations (see 2.8.2) and as shown diagrammatically in appendix 2, should be held within three months before or after the second anniversary date or within three months before or after the third anniversary date in the case of the cargo ship safety equipment certificate and should take the place of one of the annual surveys; in the case of the cargo ship safety radio certificate, it should be held within three months before or after each anniversary date.

4.4.2 General

4.4.2.1 The periodical survey should consist of an inspection, with tests when necessary, of the equipment to ensure that requirements relevant to the particular certificate are complied with and that they are in a satisfactory condition and are fit for the service for which the ship is intended.

4.4.2.2 The periodical survey should also consist of a check that all the certificates, record books, operating manuals and other instructions and documentation specified in the requirements relevant to the particular certificate are on board the ship.

4.4.2.3 Where a periodical survey has not been carried out within the due dates, reference should be made to 5.6.

(R) 4.5 Renewal surveys

4.5.1 *Frequency*

The renewal survey, as required by the relevant regulations (see 2.8.3) and as shown diagrammatically in the appendix 2, should be held before the appropriate certificate is renewed.

The cargo ship safety construction renewal survey may be commenced at the fourth annual survey and may be progressed during the succeeding year with a view to completion by the fifth anniversary date. The survey items of the fourth annual survey should not be credited to the completion of the renewal survey.

4.5.2 *General*

4.5.2.1 The renewal survey should consist of an inspection, with tests when necessary, of the structure, machinery and equipment to ensure that the requirements relevant to the particular certificate are complied with and that they are in a satisfactory condition and are fit for the service for which the ship is intended.

4.5.2.2 The renewal survey should also consist of a check that all the certificates, record books, operating manuals and other instructions and documentation specified in the requirements relevant to the particular certificate are on board the ship.

4.5.2.3 Concurrent crediting to both intermediate and renewal safety construction surveys for surveys of spaces should not be acceptable.

(B) 4.6 Inspections of the outside of the ship's bottom of cargo ships

4.6.1 *Frequency*

There should be a minimum of two inspections of the outside of the ship's bottom during any five-year period (see 5.7), except where SOLAS 74/88 regulation I/14(e) or (f) is applicable. One such inspection should be carried out on or after the fourth annual survey in conjunction with the renewal of the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate. Where the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate has been extended under SOLAS 74/88 regulation I/14(e) or (f), this five-year period may be extended to coincide with the validity of the certificate. In all cases the interval between any two such inspections should not exceed 36 months.

4.6.2 *General*

4.6.2.1 The inspection of the outside of the ship's bottom and the survey of related items (see 5.1) should include an inspection to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended.*

4.6.2.2 Inspections of the outside of the ship's bottom should normally be carried out with the ship in dry dock. However, consideration may be given to alternate inspections being carried out with the ship afloat. Special consideration should be given before ships of 15 years of age and over other than bulk carriers and oil tankers are permitted to have such surveys afloat. Inspection of the outside of the ship's bottom of bulk carriers and oil tankers of 15 years of age and over

* Refer to the *Guidelines for pre-planning of surveys in dry dock of ships which are not subject to the enhanced programme of inspections* (MSC.1/Circ.1223).

should be carried out with the ship in dry dock. Inspections with the ship afloat should only be carried out when the conditions are satisfactory and the proper equipment and suitably trained staff are available. For ships subject to enhanced survey, the provisions of paragraph 2.2.2* of the applicable part of annex A or B of the International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011 (2011 ESP Code) adopted by resolution A.1049(27), as amended, should apply.

4.6.3 Where an inspection of the ship's bottom has not been carried out before the due dates, reference should be made to 5.6.

(Ad) 4.7 Additional surveys

4.7.1 Frequency

The additional survey, as required by the relevant regulations (see 2.8.7), should be held:

- 1 when required after an investigation; or
- 2 whenever any important repairs or renewals are made; or
- 3 when ballast water management systems (BWMS) are retrofitted on an existing ship to which an International Ballast Water Management Certificate was previously issued.

4.7.2 General

Whenever an accident occurs to a ship or a defect is discovered which affects the safety or integrity of the ship or the efficiency or completeness of its equipment, the master or owner should make a report at the earliest opportunity to the Administration, the nominated surveyor or recognized organization responsible for issuing the relevant certificate. The Administration, the nominated surveyor or recognized organization responsible for issuing the relevant certificate should then initiate an investigation to determine whether a survey, as required by the regulations applicable to the particular certificate, is necessary. This additional survey, which may be general or partial according to the circumstances, should be such as to ensure that the repairs and any renewals have been effectively made and that the ship and its equipment continue to be fit for the service for which the ship is intended. In case of installations of BWMS on existing ships the survey shall be such as to ensure that this retrofit, replacement, or significant repair has been effectively made, so that the ship complies with the requirements of the BWM Convention.

4.8 Completion of surveys

4.8.1 If a survey shows that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate or is not fit to proceed to sea without danger to the ship, or persons on board, or without presenting unreasonable threat of harm to the environment, the officer of the Administration, nominated surveyor or recognized organization should be guided by the requirements of SOLAS 74/88 regulation I/6(c), MARPOL Annex I regulation 6.3.3, MARPOL Annex II regulation 8.2.5, MARPOL Annex IV regulation 4.5, MARPOL Annex VI regulation 5.3.3, IBC Code regulation 1.5.1.4, IGC Code regulation 1.4.1.4 and BCH Code regulation 1.6.1.3, or in the case of the BWM Convention the survey shows

* "2.2.2 For ships of 15 years of age and over, inspection of the outside of the ship's bottom should be carried out with the ship in dry-dock. For ships less than 15 years of age, alternate inspections of the ship's bottom not conducted in conjunction with the renewal survey may be carried out with the ship afloat. Inspection of the ship afloat should only be carried out when the conditions are satisfactory and the proper equipment and suitably qualified staff is available."

that the ship's ballast water management does not conform to the particulars of the Certificate required under regulations E-2 or E-3, or is such that the ship is not fit to proceed to sea without presenting a threat of harm to the environment, human health, property or resources, the surveyor should be guided by regulation E-1.6. These instruments require that corrective action be taken immediately and the Administration notified in due course. In cases where the corrective action has not been undertaken the relevant certificate should be withdrawn and the Administration notified immediately. If the ship is in the port of another Party, the appropriate authorities of the port State should also be notified immediately.

4.8.2 Although the Polar Code does not contain specific requirements, if the ship is trading in polar waters and a survey shows that the condition of the ship or its equipment does not correspond substantially with the particulars of the Polar Ship Certificate, or the ship is not fit to operate in polar waters without danger to the ship, or persons on board, or without presenting unreasonable threat of harm to the environment, the officer of the Administration, nominated surveyor or recognized organization should, nevertheless, be guided by 4.8.1. The validity of the Polar Ship Certificate does not affect the validity of other certificates.

4.8.3 Although LLC 66/88 does not contain specific requirements, if a load line survey shows that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate or is not fit to proceed to sea without danger to the ship, or persons on board, or without presenting unreasonable threat of harm to the environment, the officer of the Administration, nominated surveyor or recognized organization should, nevertheless, be guided by 4.8.1.

4.8.4 If a survey shows that the condition of the ship and its equipment correspond substantially with the particulars of the certificate, and the ship is fit to proceed to sea without danger to the ship, or persons on board, and without presenting unreasonable threat of harm to the environment, but deficiencies exist that cannot be rectified at the time of survey, the following guidance should be given:

- .1 a condition should be issued, detailing any relevant requirements or conditions with assigned due date for the time needed to rectify the deficiencies, with relevant information being kept available on board; if and as required by the Administration, the relevant certificates should be issued with the appropriate expiry dates; and
- .2 the Administration should be notified, as appropriate, according to the agreement with the nominated surveyor or the recognized organization.

5 AMPLIFICATION OF TERMS AND CONDITIONS

5.1 Definition of related items

Reference: SOLAS 74/88 regulation I/10(b)(v).

Related items mean those items which may only be inspected when the ship is in dry dock or undergoing an in-water examination of the outside of its bottom. For oil tankers, chemical tankers and gas carriers, this may mean that the ship has to be specially prepared by, for example, being cleaned and gas freed. Then the survey of items such as the internal examination of cargo tanks, as referred to in (CIn) 2.3.2 and (CIn) 2.3.3 in annex 1 may be undertaken at the same time.

5.2 Extending to five years a certificate issued for less than five years

References: SOLAS 74/88 regulation I/14(c), LLC 66/88 article 19(3), MARPOL Annex I regulation 10.3, MARPOL Annex II regulation 10.3, MARPOL Annex IV regulation 8.3, MARPOL Annex VI regulation 9.3, BWM Convention regulations E-5.5 and E-5.6, IBC Code regulation 1.5.6.3, IGC Code regulation 1.4.6.3, BCH Code regulation 1.6.6.3, and Polar Code part I-A/regulation 1.3.6.

Where a certificate has been issued for a period of less than five years, it is permissible under these regulations or article to extend the certificate so that its maximum period of validity is five years provided that the pattern of surveys for a certificate with a five-year period of validity is maintained (see appendix 2). This means that, for example, if a request is made to extend a two-year Cargo Ship Safety Equipment Certificate to five years, then a periodical and two further annual surveys, as detailed in SOLAS 74/88 regulation I/8, would be required. Also, for example, if it was intended to extend a four-year Cargo Ship Safety Construction Certificate to five years, an additional annual survey would be required, as detailed in SOLAS 74/88 regulation I/10. Where a certificate has been so extended, it is still permissible to also extend the certificate under SOLAS 74/88 regulations I/14(e) and (f), LLC 66/88 articles 19(5) and (6), MARPOL Annex I regulations 10.5 and 10.6, MARPOL Annex II regulations 10.5 and 10.6, MARPOL Annex IV regulations 8.5 and 8.6, MARPOL Annex VI regulations 9.5 and 9.6, BWM Convention regulation E-5.2.2, IBC Code regulations 1.5.6.5 and 1.5.6.6, IGC Code regulations 1.4.6.5 and 1.4.6.6, and BCH Code regulations 1.6.6.5 and 1.6.6.6, when no additional surveys would be required but, of course, the new certificate issued after the renewal survey would date from the five-year expiry of the existing certificate, in accordance with SOLAS 74/88 regulation I/14(b)(ii), LLC 66/88 article 19(2)(b), MARPOL Annex I regulation 10.2.2, MARPOL Annex II regulation 10.2.2, MARPOL Annex IV regulation 8.2.2, MARPOL Annex VI regulation 9.2.2, BWM Convention regulation E-5.3, IBC Code regulation 1.5.6.2.2, IGC Code regulation 1.4.6.2.2, BCH Code regulation 1.6.6.2.2 and Polar Code part I-A/regulation 1.3.6.

5.3 Extending the period between inspections of the outside of the ship's bottom

Reference: SOLAS 74/88 regulation I/10(a)(v).

This permits the period of five years in which two inspections of the ship's bottom are to be carried out to be extended when the Cargo Ship Safety Construction Certificate is extended under regulation I/14(e) and (f). However, no extension should be permitted on the period of 36 months between any two such inspections. If the first ship's bottom inspection is carried out between 24 and 27 months, the 36-month limitation may prevent the certificate being extended by the periods permitted in regulation I/14(e) and (f).

5.4 Definition of "short voyage"

References: SOLAS 74/88 regulation I/14(f), LLC 66/88 article 19(6), MARPOL Annex I regulation 10.6, MARPOL Annex II regulation 10.6, MARPOL Annex IV regulation 8.6, MARPOL Annex VI regulation 9.6, BWM Convention regulation E-5.3, IBC Code regulation 1.5.6.6, IGC Code regulation 1.4.6.6, BCH Code regulation 1.6.6.6 and Polar Code part I-A/ regulation 1.3.6.

For the purpose of these regulations or article, a "short voyage" means a voyage where neither the distance from the port in which the voyage begins to the final port of destination nor the return voyage exceeds 1,000 miles.

5.5 Application of "special circumstances"

References: SOLAS 74/88 regulation I/14(g), LLC 66/88 article 19(7), MARPOL Annex I regulation 10.7, MARPOL Annex II regulation 10.7, MARPOL Annex IV regulation 8.7, MARPOL Annex VI regulation 9.7, BWM Convention regulation E-5.7, IBC Code regulation 1.5.6.7, IGC Code regulation 1.4.6.7, BCH Code regulation 1.6.6.7 and Polar Code part I-A/ regulation 1.3.6.

The purpose of these regulations or article is to permit Administrations to waive the requirement that a certificate issued following a renewal survey that is completed after the expiry of the existing certificate should be dated from the expiry date of the existing certificate. The special circumstances when this could be permitted are where the ship has been laid up or has been out of service for a considerable period because of a major repair or modification. While the renewal survey would be as extensive as if the ship had continued in service, the Administration should consider whether additional surveys or examinations are required depending on how long the ship was out of service and the measures taken to protect the hull and machinery during this period. Where this regulation is invoked, it is reasonable to expect an examination of the outside of the ship's bottom to be held at the same time as the renewal survey when it would not be necessary to include any special requirements for cargo ships for the continued application of SOLAS 74/88 regulation I/10(a)(v).

5.6 Revalidation of certificates

References: SOLAS 74/88 regulation I/14(i)(i), LLC 66/88 article 19(9)(c), MARPOL Annex I regulation 10.9.1, MARPOL Annex II regulation 10.9.1, MARPOL Annex IV regulation 8.8.1, MARPOL Annex VI regulation 9.9.1, BWM Convention E-5.9.3, IBC Code regulation 1.5.6.9.1, IGC Code regulation 1.4.6.9.1, BCH Code regulation 1.6.6.9.1 and Polar Code part I-A/regulation 1.3.6.

A certificate ceases to be valid if the periodical, intermediate or annual survey, as appropriate, or the inspection of the outside of the ship's bottom is not completed within the periods specified in the relevant regulation or article. The validity of the certificate should be restored by carrying out the appropriate survey which, in such circumstances, should consist of the requirements of the survey that was not carried out, but its thoroughness and stringency should have regard to the time this survey was allowed to lapse. The Administration concerned should then ascertain why the survey was allowed to lapse and consider further action.

5.7 Meaning of "any five-year period"

Reference: SOLAS 74/88 regulation I/10(a)(v).

Any five-year period is the five-year period of validity of the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate.

5.8 Surveys required after transfer of the ship to the flag of another State

The certificates cease to be valid when a ship transfers to the flag of another State and it is required that the Government of the State to which the ship transfers should not issue new certificates until it is fully satisfied that the ship is being properly maintained and that there have been no unauthorized changes made to the structure, machinery and equipment. When so requested, the Government of the State whose flag the ship was formerly entitled to fly is obliged to forward, as soon as possible, to the new Administration copies of certificates carried by the ship before the transfer and, if available, copies of the relevant survey reports and records, such as record of safety equipment and conditions of assignment for load line. When

fully satisfied by an inspection that the ship is being properly maintained and that there have been no unauthorized changes, in order to maintain the harmonization of the surveys the new Administration may give due recognition to initial and subsequent surveys carried out by, or on behalf of, the former Administration and issue new certificates having the same expiry date as the certificates that ceased to be valid because of the change of flag.

5.9 Recommended conditions for extending the period of validity of a certificate

5.9.1 In SOLAS 74/88 and other mandatory IMO instruments the following provision applies: If a ship at the time when a certificate expires is not in a port in which it is to be surveyed, the Administration may extend the period of validity of a certificate but this extension should be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases *where it appears proper and reasonable to do so*. No certificate should be extended for a period longer than three months, and a ship to which an extension is granted should not, on its arrival in the port in which is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate.

5.9.2 If a ship is in a port where the required survey cannot be completed, and where the Convention allows the Administration to extend the certificate when it is proper and reasonable to do so, the Administration should be guided by the following:

- .1 an additional survey, equivalent to at least the same scope of an annual survey required by the relevant certificate(s) should be carried out;
- .2 the renewal survey should be carried out to the maximum extent possible;
- .3 in cases where a dry-docking is required, but cannot be carried out, an underwater inspection of the ship's bottom should be carried out;
- .4 in cases where an underwater inspection is not possible (e.g. poor water visibility, draught restrictions, excessive current, refusal by the port Authority), an internal inspection of the ship's bottom structure, to the maximum extent practicable, should be carried out;
- .5 the ship should be allowed to sail directly to a named final agreed cargo discharge port and then directly to a named agreed port to complete the survey and/or dry-docking;
- .6 the extension period should be for the minimum amount of time needed to complete the survey and/or dry-docking under the relevant certificate(s);
- .7 the condition of the ship found by the surveys indicated above should be considered in determining the duration, distance and operational restrictions, if any, of the voyage needed to complete the survey and/or dry-docking; and
- .8 the extension period of the relevant statutory certificate(s) should not exceed the period of validity of the certificate which may be issued to document compliance with the structural, mechanical and electrical requirements of the recognized classification society.

5.10 Inspection of the outside of a passenger ship's bottom

5.10.1 A minimum of two of the inspections of the outside of the ship's bottom during any five-year period should be conducted in dry dock. In all cases, the maximum interval between any two dry-dock bottom inspections should not exceed 36 months.

5.10.2 Where acceptable to the Administration, the minimum number of inspections in dry dock of the outside of the bottom of a passenger ship which is not a ro-ro passenger ship in any five-year period may be reduced from two to one.* In such cases the interval between consecutive inspections in dry dock should not exceed 60 months.

Note: The definition of "any five-year period" is the five-year period of validity of the International Load Line Certificate.

5.10.3 Inspections of the ship's bottom required for the renewal survey that are not conducted in dry dock may be carried out with the ship afloat. The bottom inspection, regardless of method, should be carried out within the allowable time window for the Passenger Ship Safety Certificate renewal survey (i.e. within the three-month time window before the expiry date of the certificate). Additionally, inspections of the outside of the ship's bottom conducted afloat should only be carried out when the conditions are satisfactory and the proper equipment and suitably qualified staff are available. Rudder bearing clearances specified in (PR) 5.2.2.1 need not be taken at the afloat inspections.

5.10.4 Special consideration should be given to ships 15 years of age or over before being permitted to credit inspections afloat.

5.10.5 If a survey in dry dock is not completed within the maximum intervals referred to above, the Passenger Ship Safety Certificate should cease to be valid until the survey in dry dock is completed.

5.11 Survey of radio installations

The survey of the radio installations, including those used in life-saving appliances, should always be carried out by a qualified radio surveyor who has necessary knowledge of the requirements of SOLAS 74, the International Telecommunication Union's Radio Regulations and the associated performance standards for radio equipment. The radio survey should be carried out using suitable test equipment capable of performing all the relevant measurements required by these Guidelines. On satisfactory completion of the survey, the radio surveyor should forward a report of the survey, which should also state the organization he or she represents, to the authorities responsible for the issue of the ship's Cargo Ship Safety Radio Certificate or Passenger Ship Safety Certificate.

5.12 Survey of the automatic identification system (AIS)

The survey of the automatic identification system should always be carried out by a qualified radio surveyor who has necessary knowledge of the requirements of SOLAS 74, the International Telecommunication Union's Radio Regulations and the associated performance standards for radio equipment. The survey of the automatic identification system should be carried out using suitable test equipment capable of performing all the relevant measurements required by and in accordance with the *Guidelines on annual testing of the automatic identification system (AIS)* (MSC.1/Circ.1252).

* Refer to the *Guidelines for the assessment of technical provisions for the performance of an in-water survey in lieu of bottom inspection in dry-dock to permit one dry-dock examination in any five-year period for passenger ships other than ro-ro passenger ships* (MSC.1/Circ.1348).

5.13 Surveys for ships intended to operate in polar waters*

5.13.1 In accordance with SOLAS 74/88 regulations XIV/2.1 and 3.1, MARPOL Annex I regulation 47, MARPOL Annex II regulation 22, MARPOL Annex IV regulation 18 and MARPOL Annex V regulation 14, the Polar Code is a standalone instrument, providing requirements additional to SOLAS 74/88 and MARPOL for ships intended to operate in polar waters. The requirements of the Polar Code should be surveyed in the context of the surveys under SOLAS 74/88 and MARPOL, but do not form separate survey types.

5.13.2 For MARPOL Annexes I and II,[†] compliance with the Polar Code should be indicated on the International Oil Pollution Prevention Certificate and, where applicable, the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk. For SOLAS 74/88, the Polar Ship Certificate should be issued (Polar Code, paragraph 1.3) and endorsed for compliance with the Polar Code. The Polar Ship Certificate should be perceived as a certificate additional to SOLAS certificates for ships intended to operate in polar waters, and the validities of other certificates are not affected by it when a ship stays outside of polar areas.

5.13.3 Although there is no dedicated type of survey associated with the Polar Ship Certificate, the following types of survey are applicable in the Survey Guidelines in annex 5 and contain survey items specific to the Polar Ship Certificate:

- .1 the initial survey would confirm the survey scopes of the items related to part I-A of the Polar Code with respect to the initial surveys of safety construction, safety equipment and safety radio of cargo ships or the initial survey of the Passenger Ship Safety Certificate;
- .2 the annual survey would confirm the survey scopes of the items related to part I-A of the Polar Code with respect to the periodical safety radio survey and the annual safety construction and safety equipment surveys of cargo ships;
- .3 the intermediate survey would confirm the survey scopes of the items related to part I-A of the Polar Code with respect to the intermediate safety construction survey of cargo ships;
- .4 the periodical survey (second or third year of its validity) would confirm the survey scopes of the items related to part I-A of the Polar Code with respect to the periodical safety equipment survey of cargo ships; and
- .5 the renewal survey would confirm the survey scopes of the items related to part I-A of the Polar Code with respect to the renewal surveys of safety construction, safety equipment and safety radio of cargo ships or the renewal survey of the Passenger Ship Safety Certificate.

5.13.4 For a Polar Ship Certificate issued to a cargo ship, the endorsements of the certificate for annual survey, intermediate survey and periodical survey would confirm the satisfactory completion of the survey scopes as stated respectively in subparagraphs 5.13.3.2 to 5.13.3.4.

* Refer to the *Unified interpretations of SOLAS regulation XIV/2.2 and paragraphs 1.3.2 and 1.3.6, part I-A of the Polar Code* (MSC.1/Circ.1562).

† Refer to the *Guidance for issuing revised certificates, manuals and record books under Annexes I, II and V of MARPOL for compliance with environment-related requirements of the Polar Code* (MEPC.1/Circ.856).

5.13.5 For a Polar Ship Certificate issued to a passenger ship, only the endorsements in accordance with SOLAS 74/88 regulations I/14(d) and I/14(e) or I/14(f) are applicable.

5.13.6 After the relevant surveys under the related SOLAS certificates together with the survey items relevant to the Polar Code are carried out, the relevant SOLAS certificates should then be endorsed prior to the Polar Ship Certificate being issued/endorsed.

5.13.7 In the event that the Polar Ship Certificate has ceased to be valid or has expired for a period of time and other certificates remain valid, the Administration may require, as deemed appropriate, a survey which addresses only the survey items additional to the survey items under the related SOLAS certificates for reinstating the validity of the Polar Ship Certificate. The duration of the related SOLAS certificates should remain unchanged.

Annex 1

**SURVEY GUIDELINES UNDER THE 1974 SOLAS CONVENTION,
AS MODIFIED BY THE 1988 PROTOCOL RELATING THERETO**

- (E) 1 **GUIDELINES FOR SURVEYS FOR THE CARGO SHIP SAFETY EQUIPMENT CERTIFICATE**
- (E) 1.1 **Initial surveys** – see part "General" section 4.1.
- (E) 1.1.1 For the life-saving appliances and the other equipment of cargo ships the examination of plans and designs should consist of:
- (E) 1.1.1.1 examining the plans for the fire pumps including the emergency fire pump,* if applicable, fire mains, hydrants, hoses and nozzles and the international shore connection (SOLAS 74/00/14 regs.II-2/10.2 and 10.4.4 and FSS Code chs.2 and 12);
- (E) 1.1.1.2 checking the provision, specification and arrangements of the fire extinguishers (SOLAS 74/00 reg.II-2/10.3) (SOLAS 74/88 reg.II-2/6);
- (E) 1.1.1.3 checking the provision, specification and arrangements of the fire-fighters' outfits including their self-contained compressed air breathing apparatus, emergency escape breathing devices (EEBDs), onboard means of recharging breathing apparatus cylinders used during drills or a suitable number of spare cylinders to replace those used, and provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (SOLAS 74/00/12 regs.II-2/10.10, 13.3.4, 13.4.3 and 15.2.2; FSS Code ch.3) (SOLAS 74/88 reg.II-2/17) (BCH Code, ch.III, part E);
- (E) 1.1.1.4 examining the plans for the fire-extinguishing arrangements in the machinery spaces (SOLAS 74/00/12/14 regs.II-2/10.4 and 10.5 (except 10.5.5); FSS Code chs.5, 6 and 7) (SOLAS 74/88 reg.II-2/7);
- (E) 1.1.1.5 examining the plans for the special arrangements in the machinery spaces (SOLAS 74/00 regs.II-2/5.2, 8.3 and 9.5) (SOLAS 74/88 reg.II-2/11);
- (E) 1.1.1.6 checking the provision of a fixed fire detection and fire alarm system for machinery spaces including periodically unattended machinery spaces and enclosed spaces containing incinerators (SOLAS 74/00/10 regs.II-2/7.2, 7.3 and 7.4; FSS Code ch.9) (SOLAS 74/88 regs.II-2/13 and 14);
- (E) 1.1.1.7 checking the provision of a fixed fire detection and fire alarm system and/or a sprinkler, fire detection and fire alarm system in accommodation and service spaces and control stations (SOLAS 74/00 regs.II-2/7.2, 7.3, 7.5.5, 7.7 and 10.6.2; FSS Code chs.8 and 9) (SOLAS 74/88 reg.II-2/52);

* Refer to the *Unified interpretation of chapter 12 of the International Code for Fire Safety Systems* (MSC.1/Circ.1388).

- (E) 1.1.1.8 checking the provision of a fire-extinguishing system for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces (SOLAS 74/00 regs.II-2/10.6.3 and 10.6.4; FSS Code chs.5 and 7) (SOLAS 74/88 regs.II-2/18.7) (BCH Code ch.III, part E);
- (E) 1.1.1.9 examining the arrangements for remote closing of valves for oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.2.3.4) (SOLAS 74/88 reg.II-2/15.2.5);
- (E) 1.1.1.10 examining the plans for the fire protection arrangements in cargo spaces for general cargo and dangerous goods (SOLAS 74/00/14 regs.II-2/10.7.1, 10.7.2 and 19) (SOLAS 74/88 regs.II-2/53 and 54);
- (E) 1.1.1.11 examining the plans for the fire protection arrangements for ships designed to carry containers on or above the weather deck, as applicable, including provision of the water mist lance, and as appropriate, mobile water monitors and all necessary hoses, fittings and required fixing hardware together with the requirements additional to fire pumps, fire mains, fire hoses and fire hydrants (SOLAS 74/00/14 reg.II 2/10.7.3);
- (E) 1.1.1.12 examining the plans for the fire protection arrangements in vehicle, special category and ro-ro spaces, including the fire safety arrangements for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo, as applicable (SOLAS 74/00/14 reg.II-2/20 (except 20.2.2 and 20.5) and 20-1; FSS Code chs.5, 6, 7, 9 and 10) (SOLAS 74/88 regs.II-2/37, 38 and 53);
- (E) 1.1.1.13 checking navigation bridge visibility (SOLAS 74/00 reg.V/22);
- (E) 1.1.1.14 examining the plans for the helicopter facilities (SOLAS 74/00 reg.II-2/18) (SOLAS 74/88 reg.II-2/18.8);
- (E) 1.1.1.15 examining the plans for the special arrangements for the carriage of dangerous goods, when appropriate, including water supplies, electrical equipment and wiring, fire detection including sample extraction smoke detection systems, where applicable, ventilation, bilge pumping, personnel protection and any water spray system (SOLAS 74/00 reg.II-2/19 (except 19.3.8, 19.3.10 and 19.4); FSS Code chs.9 and 10) (SOLAS 74/88 reg.II-2/54);
- (E) 1.1.1.16 examining the provision and disposition of the survival craft and rescue boats and, where applicable, marine evacuation systems (MESs) (SOLAS 74/88 regs.III/11 to 16, 31 and 33);
- (E) 1.1.1.17 examining, where applicable, the approved documentation for the alternative design and arrangements (SOLAS 74/00/06 regs.II-2/17 and III/38);

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- (EI) 1.1.1.18 examining the design of the survival craft, including their construction equipment, fittings, release mechanisms and recovery appliances and embarkation and launching arrangements (SOLAS 74/96/06/11 regs.III/4,16, 31, 32 to 33; LSA Code sections 3.2, 4.1 to 4.9, 6.1 and 6.2);
- (EI) 1.1.1.19 checking that the life-saving appliances are of an international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea (LSA Code section 1.2.2.6);
- (EI) 1.1.1.20 examining the design of the rescue boats, including their equipment and launching and recovery appliances and arrangements (SOLAS 74/00 regs.III/17 and 31; LSA Code sections 5.1 and 6.1);
- (EI) 1.1.1.21 examining the provision, specification and stowage of two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 reg.III/6);
- (EI) 1.1.1.22 examining the provision, specification and stowage of the distress flares and the line-throwing appliance and the provision of onboard communications equipment and the general alarm system (SOLAS 74/00 regs.II-2/12.1 and 12.2, and regs.III/6 and 18; and LSA Code sections 3.1, 7.1 and 7.2);
- (EI) 1.1.1.23 examining the provision, specification and stowage of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets,* immersion suits and anti-exposure suits (SOLAS 74/00/06 regs.III/7 and 32; LSA Code sections 2.1 to 2.5 and 3.1 to 3.3);
- (EI) 1.1.1.24 checking that immersion suits designed to be worn in conjunction with a lifejacket are suitably marked (LSA Code section 2.3.1);
- (EI) 1.1.1.25 examining the plans for the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including the supply from the emergency source of power (SOLAS 74/88 regs.II-1/43 and III/11);
- (EI) 1.1.1.26 examining the plans for the positioning of, and the specification for, the navigation lights, shapes and sound signalling equipment (COLREG 1972, rules 20 to 24, 27 to 30 and 33);
- (EI) 1.1.1.27 examining the plans relating to the bridge design and arrangement of navigational systems and equipment and bridge procedures (SOLAS 74/00 regs.V/15 and 19);
- (EI) 1.1.1.28 checking the provision and specification of the following navigation equipment as appropriate: daylight signalling lamp, magnetic compass, transmitting heading device, gyro compass, gyro compass repeaters, radar installation(s), automatic identification system, electronic plotting aid, automatic tracking aid(s) or automatic radar plotting aid(s), echo-sounding device, speed and distance measuring device(s), rudder angle indicator, propeller rate of revolution indicator, variable-pitch

* SOLAS regulation III/7.2.1.5 should be considered.

- propeller pitch and operational mode indicator, rate-of-turn indicator, heading or track control system, GNSS receiver, terrestrial radio navigation system and sound reception system, means of communication with emergency steering position, a pelorus or compass bearing device, means for correcting heading and bearings, a bridge navigational watch alarm system (BNWAS) as applicable and an electronic chart display and information system (ECDIS) including backup arrangements as applicable (SOLAS 74/00/09/13 reg.V/19);
- (EI) 1.1.1.29 checking the provision and specification of voyage data recorder (SOLAS 74/00 reg.V/20);
- (EI) 1.1.1.30 checking the provision and specification of the long-range identification and tracking system (SOLAS 74/04 reg.V/19-1);
- (EI) 1.1.1.31 checking the plans and specification for the pilot transfer arrangement, the pilot ladders, the combination arrangements, where applicable, the access to the ship's deck and the associated equipment and lighting (SOLAS 74/88/10 reg.V/23); and
- (EI) 1.1.1.32 checking the provision of means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders (SOLAS 74/08 reg.II-1/3-9).
- (EI) 1.1.2 For the examination of plans and designs of the life-saving appliances and the other equipment of cargo ships, the additional requirements for tankers should consist of:
- (EI) 1.1.2.1 examining the plans for the cargo tank protection (SOLAS 74/00/15 regs.II-2/4.5.3, 4.5.5, 4.5.6 and 10.8; FSS Code chs.14 and 15) (SOLAS 74/88 regs.II-2/60 and 62);
- (EI) 1.1.2.2 examining the plans for gas measurement in double hull spaces and double bottom spaces, including the fitting of permanent gas sampling lines, where appropriate (SOLAS 74/10 reg.II-2/4.5.7.2);
- (EI) 1.1.2.3 examining, for oil tankers of 20,000 tonnes deadweight and above, the plans for the fixed hydrocarbon gas detection system for measuring hydrocarbon gas concentrations in all ballast tanks and void spaces of double hull and double bottom spaces adjacent to the cargo tanks, including the forepeak tank and any other tanks and spaces under the bulkhead deck adjacent to cargo tanks (SOLAS 74/10 reg.II-2/4.5.7.3 and FSS Code ch.16); and
- (EI) 1.1.2.4 examining the plans for protection of the cargo pump-rooms (SOLAS 78/00 regs.II-2/4.5.10 and 10.9) (SOLAS 74/88 reg.II-2/63).
- (EI) 1.1.3 For the examination of plans and designs of the life-saving appliances and the other equipment of cargo ships using natural gas as fuel other than ships covered by the IGC Code, the additional requirements should consist of:
- (EI) 1.1.3.1 examining the plans, for the fire detection and alarm system and fire-fighting arrangements (IGF Code paras.11.4, 11.5, 11.6 and 11.7).

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- (E1) 1.1.4 For the life-saving appliances and the other equipment of cargo ships the survey during construction and after installation should consist of:
- (E1) 1.1.4.1 examining the fire pumps and fire main and the disposition of the hydrants, hoses and nozzles and the international shore connection and checking that each fire pump, including the emergency fire pump, can be operated separately so that two jets of water are produced simultaneously from different hydrants at any part of the ship while the required pressure is maintained in the fire main; and testing that the emergency fire pump has the required capacity, and if the emergency fire pump is the main supply of water for any fixed fire-extinguishing system, checking that the emergency fire pump has the capacity for this system* (SOLAS 74/00/14 reg.II-2/10.2; FSS Code chs.2 and 12) (SOLAS 74/88 regs.II-2/4 and 19);
- (E1) 1.1.4.2 for ships designed to carry containers on or above the weather deck, as applicable, testing the water mist lance, and as appropriate, the mobile water monitors and examining all necessary hoses, fittings and required fixing hardware, and testing that the mobile water monitors are capable of being securely fixed to the ship structure ensuring safe and effective operation, and testing that the mobile water monitor jets reach the top tier of containers with all required monitors and water jets from fire hoses operated simultaneously (SOLAS 74/00/14 reg.II-2/10.7.3);
- (E1) 1.1.4.3 examining the provision and disposition of the fire extinguishers (SOLAS 74/00 reg.II-2/10.3; FSS Code ch.4) (SOLAS 74/88 reg.II-2/17);
- (E1) 1.1.4.4 examining the fire-fighters' outfits including their self-contained compressed air breathing apparatus, emergency escape breathing devices (EEBDs), onboard means of recharging breathing apparatus cylinders used during drills or the provision of a suitable number of spare cylinders to replace those used, and provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (SOLAS 74/00/12 regs.II-2/10.10, 13.3.4, 13.4.3 and 15.2.2; FSS Code ch.3) (SOLAS 74/88 reg.II-2/17) (BCH Code ch.III, part E);
- (E1) 1.1.4.5 checking the operational readiness and maintenance of fire-fighting systems (SOLAS 74/00 reg.II-2/14.1) (SOLAS 74/88 reg.II-2/21);
- (E1) 1.1.4.6 examining the fixed fire-fighting system for the machinery, cargo, vehicle, special category and ro-ro spaces, as appropriate, and confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked (SOLAS 74/00/08/12/14 regs.II-2/10.4, 10.5, 10.7.1, 10.7.2 and 20.6.1; FSS Code chs.5 to 7) (SOLAS 74/88 regs.II-2/7 and 53);
- (E1) 1.1.4.7 checking that fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces and cargo pump-rooms, where applicable, are provided with two separate controls, one for opening of the gas piping and one for discharging the gas from the storage container, each of them located in a release box clearly identified for the particular space (SOLAS 74/08 reg.II-2/10.4.1.5);

* Refer to the *Unified interpretation of chapter 12 of the International Code for Fire Safety Systems* (MSC.1/Circ.1388).

- (E1) 1.1.4.8 examining the fire-extinguishing and special arrangements in the machinery spaces and confirming, as far as practicable and as appropriate, the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of the funnel and ventilation openings, the closure of power-operated and other doors, the stopping of ventilation and boiler forced and induced draught fans and the stopping of oil fuel and other pumps that discharge flammable liquids (SOLAS 74/00/12/14 regs.II-2/5.2, 8.3, 9.5 and 10.5) (SOLAS 74/88 regs.II-2/7 and 11);
- (E1) 1.1.4.9 examining any fixed fire detection and alarm system and any automatic sprinkler, fire detection and fire alarm system, and any sample extraction smoke detection system, and confirming that installation tests have been satisfactorily completed (SOLAS 74/00/10 regs.II-2/7.2, 7.3, 7.4, 7.5.1, 7.5.5, 19.3.3 and 20.4; FSS Code chs.8, 9 and 10) (SOLAS 74/88 regs.II-2/11, 13, 14, 53 and 54);
- (E1) 1.1.4.10 examining the fire-extinguishing system for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces and confirming that installation tests have been satisfactorily completed and that its means of operation are clearly marked (SOLAS 74/00regs.II-2/10.6.3 and 10.6.4; FSS Code chs.4 to 7) (SOLAS 74/88 reg.II-2/18.7) (BCH Code ch.III, part E);
- (E1) 1.1.4.11 examining the arrangements for oil fuel, lubricating oil and other flammable oils and testing the remote closing of valves for oil fuel, lubricating oil and other flammable oils and the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.2.3.4) (SOLAS 74/88 reg.II-2/15.2.5);
- (E1) 1.1.4.12 examining the fire protection arrangements in cargo vehicle and ro-ro spaces, including the fire safety arrangements for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo, as applicable, and confirming, as far as practicable and as appropriate, the operation of the means for closing the various openings (SOLAS 74/00/14 regs.II-2/10.7.1, 10.7.2, 20.2.1, 20.3, 20.6.2, 20-1.2.1, 20-1.3, and 20-1.4) (SOLAS 74/88 reg.II-2/53);
- (E1) 1.1.4.13 examining the portable gas detectors suitable for the detection of the gas fuel, for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo (SOLAS 74/14 regs.II-2/20-1.2.1 and 20-1.5);
- (E1) 1.1.4.14 examining, where applicable, the alternative design and arrangements for fire safety or life-saving appliances and arrangements, in accordance with the test and inspection requirements, if any, specified in the approved documentation (SOLAS 74/00/06 regs.II-2/17 and III/38);
- (E1) 1.1.4.15 examining, when appropriate, the special arrangements for carrying dangerous goods, including checking the electrical equipment and wiring, the ventilation, the provision of protective clothing and portable appliances and the testing of the water supply, bilge pumping and any water spray system (SOLAS 74/00/08 reg.II-2/19 (except 19.3.8, 19.3.10 and 19.4); FSS Code chs.9 and 10) (SOLAS 74/88 reg.II-2/54);

- (E) 1.1.4.16 checking that the life-saving appliances are of international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea (LSA Code section 1.2.2.6);
- (E) 1.1.4.17 checking the provision and disposition of the survival craft, where applicable, marine evacuation systems and rescue boats (SOLAS 74/88 regs.III/11 to 16 and 31; LSA Code section 6.2);
- (E) 1.1.4.18 deployment of 50% of the MES after installation (LSA Code paragraph 6.2.2.2);
- (E) 1.1.4.19 examining each survival craft, including its equipment; for liferafts provided for easy side-to-side transfer, verifying that they are less than 185 kg (SOLAS 74/88 reg.III/31; LSA Code sections 2.5, 3.1 to 3.3 and 4.1 to 4.9) (SOLAS 74/00 reg.III/31.1);
- (E) 1.1.4.20 examining the embarkation arrangements for each survival craft and the testing of each launching appliance, including overload tests, tests to establish the lowering speed and the lowering of each survival craft to the water with the ship at its lightest seagoing draught, and, where applicable, launching underway at 5 knots, checking the recovery of each lifeboat (SOLAS 74/00 regs.III/11, 12, 13, 16, 31 and 33; LSA Code section 6.1);
- (E) 1.1.4.21 examining the embarkation arrangements for each marine evacuation device, where applicable, and the launching arrangements, including inspection for lack of side shell opening between the embarkation station and waterline, review of distance to the propeller and other life-saving appliances and ensuring that the stowed position is protected from heavy weather damage, as much as practicable (SOLAS 74/00 reg.III/15; LSA Code section 6.2);
- (E) 1.1.4.22 examining each rescue boat, including its equipment; for inflatable rescue boats, confirming that they are stowed in a fully inflated condition (SOLAS 74/88 regs.III/14 and 31; LSA Code sections 2.5, 5.1 and 6.1);
- (E) 1.1.4.23 examining the embarkation and recovery arrangements for each rescue boat and testing each launching and recovery appliance, including overload tests, tests to establish the lowering and recovery speeds and ensuring that each rescue boat can be lowered to the water and recovered with the ship at its lightest seagoing draught, launching underway at 5 knots (SOLAS 74/88 regs.III/14, 17 and 31; LSA Code section 6.1);
- (E) 1.1.4.24 testing that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactorily and operate both ahead and astern (SOLAS 74/00 reg.III/19);
- (E) 1.1.4.25 confirming that there are posters or signs in the vicinity of survival craft and their launching stations and containers, brackets, racks and other similar stowage locations for life-saving equipment (SOLAS 74/88 regs.III/9 and 20);

- (E1) 1.1.4.26 examining the provision and stowage and checking the operation of portable onboard communications equipment, if provided, and two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 regs.II-2/12.2 and III/6);
- (E1) 1.1.4.27 examining the provision and stowage of the distress flares and the line-throwing appliance, checking the provision and operation of fixed onboard communications equipment, if provided, and testing the means of operation of the general alarm system (SOLAS 74/00 regs.III/6 and 18; LSA Code sections 3.1, 7.1 and 7.2);
- (E1) 1.1.4.28 examining the provision, disposition and stowage of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets,* immersion suits and anti-exposure suits (SOLAS 74/00/06 regs.III/7 and 32; LSA Code sections 2.1 to 2.5 and 3.1 to 3.3);
- (E1) 1.1.4.29 checking the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including when supplied from the emergency source of power (SOLAS 74/88 regs.II-1/43 and III/11);
- (E1) 1.1.4.30 examining the provision and positioning and checking the operation of, as appropriate, the navigation lights, shapes and sound signalling equipment (COLREG 1972, rules 20 to 24, 27 to 30 and 33);
- (E1) 1.1.4.31 checking that the minimum safe distances from the steering and standard magnetic compasses for all electrical equipment are complied with (SOLAS 74/00 regs.V/17 and 19);
- (E1) 1.1.4.32 checking the electromagnetic compatibility of electrical and electronic equipment on or in the vicinity of the bridge (SOLAS 74/00 reg.V/17);
- (E1) 1.1.4.33 checking, as appropriate, the provision and operation of the following shipborne navigational systems equipment (SOLAS 74/00 reg.V/19):
 - (E1) 1.1.4.33.1 the magnetic compass, including examining the siting, movement and illumination and a pelorus or compass bearing device (SOLAS 74/00 reg.V/19);
 - (E1) 1.1.4.33.2 nautical charts and nautical publications necessary for the intended voyage are available and have been updated, and, where ECDIS is used, the electronic charts have been updated and the required backup system is provided and updated (SOLAS 74/00/09 reg.V/19);
 - (E1) 1.1.4.33.3 global navigation satellite system receiver or terrestrial radionavigation system;
 - (E1) 1.1.4.33.4 sound-reception system, when bridge is totally enclosed;
 - (E1) 1.1.4.33.5 means of communication to emergency steering position, where provided;

* SOLAS regulation III/7.2.1.5 should be considered.

- (EI) 1.1.4.33.6 spare magnetic compass;
- (EI) 1.1.4.33.7 daylight signalling lamp;
- (EI) 1.1.4.33.8 echo-sounding device;
- (EI) 1.1.4.33.9 radar(s), including examining the waveguide and cable runs for routeing and protection and the display unit confirming lighting, correct operation of all controls, and functions;
- (EI) 1.1.4.33.10 electronic plotting aid, automatic tracking aid or automatic radar plotting aid as appropriate, using the appropriate test facilities;
- (EI) 1.1.4.33.11 speed and distance measuring devices "through the water" and "over the ground";
- (EI) 1.1.4.33.12 transmitting heading device providing heading information to radar, plotting aids and automatic identification system equipment;
- (EI) 1.1.4.33.13 automatic identification system;
- (EI) 1.1.4.33.14 gyrocompass, including examining the alignment of the master and all repeaters;
- (EI) 1.1.4.33.15 rudder angle indicator;
- (EI) 1.1.4.33.16 propeller rate of revolution indicator;
- (EI) 1.1.4.33.17 propeller, operational mode, thrust, and pitch indicator;
- (EI) 1.1.4.33.18 rate-of-turn indicator;
- (EI) 1.1.4.33.19 heading or track control system;
- (EI) 1.1.4.33.20 BNWAS;
- (EI) 1.1.4.34 checking for the provision and operation of the voyage data recorder (SOLAS 74/00 reg.V/20);
- (EI) 1.1.4.35 checking the record of the voyage data recorder annual performance test (SOLAS 74/00 reg.V/18);
- (EI) 1.1.4.36 checking navigation bridge visibility (SOLAS 74/00 reg.V/22);
- (EI) 1.1.4.37 checking that a valid conformance test report of the long-range identification and tracking system is available on board (SOLAS 74/04 reg.V/19-1);
- (EI) 1.1.4.38 checking the provision of the pilot transfer arrangement, the access to the ship's deck and the associated equipment and lighting, checking the operation of the pilot ladders and the combination arrangements (SOLAS 74/00/10 reg.V/23);
- (EI) 1.1.4.39 checking the provision of means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders (SOLAS 74/08 reg.II-1/3-9); and

- (EI) 1.1.4.40 checking, when appropriate, the provision of an appropriate instrument for measuring the concentration of gas or oxygen in the air together with detailed instructions for its use (SOLAS 74/08 reg.VI/3).
- (EI) 1.1.5 For the life-saving appliances and the other equipment of cargo ships for the additional requirements for tankers the survey during construction and after installation should consist of:
 - (EI) 1.1.5.1 checking the deck foam system, including the supplies of foam concentrate, and testing that the minimum number of jets of water at the required pressure in the fire main is obtained (see (EI) 1.1.3.1) when the system is in operation (SOLAS 74/00 reg.II-2/10.8; FSS Code ch.15) (SOLAS 74/88 reg.II-2/61);
 - (EI) 1.1.5.2 examining the inert gas system (SOLAS 74/00/14 reg.II-2/4.5.5; FSS Code ch.15) (SOLAS 74/88 reg.II-2/62) and in particular:
 - (EI) 1.1.5.2.1 examining externally for any sign of gas or effluent leakage;
 - (EI) 1.1.5.2.2 confirming the proper operation of both inert gas blowers;
 - (EI) 1.1.5.2.3 observing the operation of the scrubber-room ventilation system;
 - (EI) 1.1.5.2.4 checking the deck water seal for automatic filling and draining, and the arrangements for protecting the system against freezing;
 - (EI) 1.1.5.2.5 where a double block and bleed valve is installed, checking the automatic operations of the block and the bleed valves upon loss of power;
 - (EI) 1.1.5.2.6 where two shut-off valves in series with a venting valve in between are used as non-return devices, checking the automatic operation of the venting valve, and the alarm for faulty operation of the valves;
 - (EI) 1.1.5.2.7 examining the operation of all remotely operated or automatically controlled valves and, in particular, the flue gas isolating valves;
 - (EI) 1.1.5.2.8 observing a test of the interlocking feature of soot blowers;
 - (EI) 1.1.5.2.9 observing that the gas pressure-regulating valve automatically closes when the inert gas blowers are secured;
 - (EI) 1.1.5.2.10 checking the means for separating the cargo tank not being inerted from the inert gas main;
 - (EI) 1.1.5.2.11 checking the alarms of the two oxygen sensors positioned in the space or spaces containing the inert gas system;
 - (EI) 1.1.5.2.12 checking, as far as practicable, the following alarms and safety devices of the inert gas system using simulated conditions where necessary:
 - (EI) 1.1.5.2.12.1 high oxygen content of gas in the inert gas main;
 - (EI) 1.1.5.2.12.2 low gas pressure in the inert gas main;

- (EI) 1.1.5.2.12.3 low pressure in the supply to the deck water seal;
- (EI) 1.1.5.2.12.4 high temperature of gas in the inert gas main;
- (EI) 1.1.5.2.12.5 low water pressure or low water-flow rate;
- (EI) 1.1.5.2.12.6 accuracy of portable and fixed oxygen-measuring equipment by means of calibration gas;
- (EI) 1.1.5.2.12.7 high water level in the scrubber;
- (EI) 1.1.5.2.12.8 failure of the inert gas blowers;
- (EI) 1.1.5.2.12.9 failure of the power supply to the automatic control system for the gas regulating valve and to the instrumentation for continuous indication and permanent recording of pressure and oxygen content in the inert gas main;
- (EI) 1.1.5.2.12.10 high pressure of gas in the inert gas main;
- (EI) 1.1.5.2.13 checking the proper operation of the inert gas system on completion of the checks listed above;
- (EI) 1.1.5.3 examining the fixed fire-fighting system for the cargo pump-room, confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked (SOLAS 74/00 reg.II-2/10.9; FSS Code chs.5, 6, 7 and 8, as applicable) and, when appropriate, checking the operation of the remote means for closing the various openings;
- (EI) 1.1.5.4 examining the protection of the cargo pump-rooms and confirming that the installation tests have been satisfactorily completed (SOLAS 74/00 reg.II-2/4.5.10) (SOLAS 74/88 regs.II-2/55 to 58);
- (EI) 1.1.5.5 examining, for all tankers, the arrangements for cargo tank protection, (SOLAS 74/00/10/15 regs.II-2/4.5.3, 4.5.6 and 10.8; FSS Code chs.14 and 15) (SOLAS 74/88 regs.II-2/60 and 62);
- (EI) 1.1.5.6 checking, for all tankers, the provision of at least one portable instrument for measuring oxygen and one for measuring flammable vapour concentrations, together with a sufficient set of spares, and suitable means for the calibration of these instruments (SOLAS 74/10 reg.II-2/4.5.7.1);
- (EI) 1.1.5.7 examining the arrangements for gas measurement in double hull spaces and double bottom spaces, including the fitting of permanent gas sampling lines, where appropriate (SOLAS 74/10 reg.II-2/4.5.7.2); and
- (EI) 1.1.5.8 examining, for oil tankers of 20,000 tonnes deadweight and above, the fixed hydrocarbon gas detection system for measuring hydrocarbon gas concentrations in all ballast tanks and void spaces of double hull and double bottom spaces adjacent to the cargo tanks, including the forepeak tank and any other tanks and spaces under the bulkhead deck adjacent to cargo tanks, and confirming that the installation tests have been satisfactorily completed (SOLAS 74/10 reg.II-2/4.5.7.3 and FSS Code ch.16).

- (EI) 1.1.6 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code, the survey during construction and after installation should consist of:
 - (EI) 1.1.6.1 examining the arrangements for fire protection and fire extinction (IGF Code ch.11);
 - (EI) 1.1.6.2 examining the fire pump capacity and working pressure in relation to water spray system, if the water spray system is part of the fire main system (IGF Code para.11.4.1);
 - (EI) 1.1.6.3 examining the isolating valves of the fire main, when the fuel storage tank(s) is located on the open deck (IGF Code para.11.4.2);
 - (EI) 1.1.6.4 examining the water spray system arrangement for fuel storage tanks(s) on open deck including remote operation (IGF Code para.11.5);
 - (EI) 1.1.6.5 examining the fixed dry chemical powder fire-extinguishing system for the bunkering station area (IGF Code para.11.6.1);
 - (EI) 1.1.6.6 examining the portable dry powder extinguisher (IGF Code para.11.6.2); and
 - (EI) 1.1.6.7 examining the fixed fire detection and alarm system (IGF Code para.11.7).
- (EI) 1.1.7 For the life-saving appliances and the other equipment of cargo ships the check that the required documentation has been placed on board should consist of:
 - (EI) 1.1.7.1 confirming that the fire control plans are permanently exhibited or, alternatively, emergency booklets have been provided and that a duplicate of the plans or the emergency booklet are available in a prominently marked enclosure external to the ship's deckhouse (SOLAS 74/00 reg.II-2/15.2.4) (SOLAS 74/88 reg.II-2/20);
 - (EI) 1.1.7.2 confirming that maintenance plans have been provided (SOLAS 74/00 regs.II-2/14.2.2 and 14.4);
 - (EI) 1.1.7.3 confirming that the training manuals and the fire safety operational booklets have been provided (SOLAS 74/00/14 regs.II-2/15.2.3, 16.2 and 16.3);
 - (EI) 1.1.7.4 confirming that, where applicable, the approved documentation for the alternative design and arrangement is on board (SOLAS 74/00/06 regs.II-2/17 and III/38);
 - (EI) 1.1.7.5 confirming, where appropriate, that the ship is provided with a document indicating compliance with the special requirement for carrying dangerous goods (SOLAS 74/00/08, reg.II-2/19.4) (SOLAS 74/88 reg.II-2/54(3));

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- (EI) 1.1.7.6 confirming that emergency instructions are available for each person on board, that the muster list is posted in conspicuous places and that they are in a language understood by the persons on board (SOLAS 74/00 regs.III/8 and 37);
- (EI) 1.1.7.7 confirming that ship-specific plans and procedures for recovery of persons from the water have been provided (SOLAS 74/12 reg.III/17-1);
- (EI) 1.1.7.8 confirming that the training manual and training aids for the life-saving appliances have been provided and are available in the working language of the ship (SOLAS 74/00 reg.III/35);
- (EI) 1.1.7.9 confirming that the instructions for onboard maintenance of the life-saving appliances have been provided (SOLAS 74/88 reg.III/36);
- (EI) 1.1.7.10 confirming that a table or curve of residual deviations for the magnetic compass has been provided, and that a diagram of the radar installations shadow sectors is displayed (SOLAS 74/00 reg.V/19);
- (EI) 1.1.7.11 checking that operational and, where appropriate, maintenance manuals for all navigational equipment are provided (SOLAS 74/00 reg.V/16);
- (EI) 1.1.7.12 checking that records are provided, identifying any pilot ladders placed into service (SOLAS 74/10 reg.V/23.2.4);
- (EI) 1.1.7.13 checking that the charts and nautical publications necessary for the intended voyage are available and have been updated (SOLAS 74/88 reg.V/27);
- (EI) 1.1.7.14 checking that the International Code of Signals and an up-to-date copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual have been provided (SOLAS 74/00/02 reg.V/21);
- (EI) 1.1.7.15 checking that arrangements are provided to maintain records of navigational activities and daily reporting (SOLAS 74/00/03 reg.V/28);
- (EI) 1.1.7.16 checking that an illustrated table describing the life-saving signals to be used by ships, aircraft or persons in distress is available (SOLAS 74/00 reg.V/29); and
- (EI) 1.1.7.17 confirming that a continuous synopsis record is provided (SOLAS 74/02 reg.XI-1/5).
- (EI) 1.1.8 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for tankers the check that the required documentation has been placed on board should consist of:
- (EI) 1.1.8.1 confirming, when appropriate, that the instruction manuals for the inert gas system have been provided (FSS Code ch.15 paragraph 2.2.5) (SOLAS 74/88 reg.II-2/62.21); and
- (EI) 1.1.8.2 confirming that the operating and maintenance instructions for the fixed hydrocarbon gas detection system are provided (SOLAS 74/10 reg.II-2/4.5.7.3 and FSS Code ch.16).

- (EI) 1.1.9 For the life-saving appliances and the other equipment of cargo ships the completion of the initial survey should consist of:
- (EI) 1.1.9.1 after a satisfactory survey, the Cargo Ship Safety Equipment Certificate and its associated Record of Equipment (Form E) should be issued.
- (EA) **1.2 Annual surveys** – see part "General" section 4.2.
- (EA) 1.2.1 For the life-saving appliances and the other equipment of cargo ships the examination of current certificates and other records should consist of:
- (EA) 1.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (EA) 1.2.1.2 checking, as appropriate, the validity of the Polar Ship Certificate;
- (EA) 1.2.1.3 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (EA) 1.2.1.4 checking the validity of the International Ship Security Certificate;
- (EA) 1.2.1.5 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (EA) 1.2.1.6 checking the validity of the International Oil Pollution Prevention Certificate;
- (EA) 1.2.1.7 checking the certificates of class, if the ship is classed with a classification society;
- (EA) 1.2.1.8 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (EA) 1.2.1.9 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (EA) 1.2.1.10 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (EA) 1.2.1.11 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (EA) 1.2.1.12 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (EA) 1.2.1.13 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);

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- (EA) 1.2.1.14 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (EA) 1.2.1.15 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (EA) 1.2.1.16 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (EA) 1.2.1.17 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (EA) 1.2.1.18 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (EA) 1.2.1.19 checking the manning and supervision of survival craft (SOLAS 74/00 reg.III/10);
- (EA) 1.2.1.20 confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board (SOLAS 74/00/06 regs.II-2/17 and III/38);
- (EA) 1.2.1.21 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (EA) 1.2.1.22 confirming that the fire control plans are permanently exhibited or, alternatively, that emergency booklets have been provided and that a duplicate of the plans or the emergency booklet are available in a prominently marked enclosure external to the ship's deckhouse (SOLAS 74/00 reg.II-2/15.2.4) (SOLAS 74/88 reg.II-2/20);
- (EA) 1.2.1.23 confirming that the maintenance plans have been provided (SOLAS 74/00 regs.II-2/14.2.2 and 14.4);
- (EA) 1.2.1.24 confirming that the training manuals and the fire safety operational booklets have been provided (SOLAS 74/00/14 regs.II-2/15.2.3, 16.2 and 16.3);
- (EA) 1.2.1.25 checking whether any fire has occurred on board necessitating the operation of the fixed fire-extinguishing systems or the portable fire extinguishers since the last survey;
- (EA) 1.2.1.26 checking, when appropriate, that the ship is provided with a document indicating compliance with the special requirements for carrying dangerous goods (SOLAS 74/00/08 reg.II-2/19.4) (SOLAS 74/88 reg.II-2/54(3));

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (EA) 1.2.1.27 confirming, when appropriate, that there is a special list, manifest or stowage plan for the carriage of dangerous goods (SOLAS 74/88 reg.VII/5(3));
- (EA) 1.2.1.28 confirming, when appropriate, that the instruction manuals for the inert gas system have been provided and checking from the records of the pressure and oxygen content that the inert gas system is being operated correctly (FSS Code ch.15) (SOLAS 74/88 reg.II-2/62);
- (EA) 1.2.1.29 confirming that, where applicable, a factual statement has been provided on board by the lifeboat release and retrieval system manufacturer or one of their representatives that confirms the successful completion of the overhaul examination of an existing lifeboat release and retrieval system found to be compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, or, alternatively, that a statement of acceptance of the installation of a replacement release and retrieval system to an existing lifeboat is available (SOLAS 74/11 reg.III/1.5; LSA Code section 4.4.7.6);
- (EA) 1.2.1.30 checking that logbook entries are being made (SOLAS 74/00/12 regs.III/19 and 20) and in particular:
 - (EA) 1.2.1.30.1 the date when the last full muster of the crew for boat and fire drill took place, and the date when the last enclosed space entry and rescue drills took place;
 - (EA) 1.2.1.30.2 the records indicating that the lifeboat equipment was examined at that time and found to be complete;
 - (EA) 1.2.1.30.3 the last occasion when the lifeboats were swung out and when each one was lowered into the water;
 - (EA) 1.2.1.30.4 the records indicating that crew members have received the appropriate onboard training;
 - (EA) 1.2.1.30.5 the records indicating that on voyages where passengers are scheduled to be on board for more than 24 h, musters of newly embarked passengers have taken place prior to or immediately upon departure;
- (EA) 1.2.1.31 confirming that the training manual and training aids for the life-saving appliances are available on board in the working language of the ship (SOLAS 74/00 reg.III/35);
- (EA) 1.2.1.32 confirming that the checklist and instructions for onboard maintenance of the life-saving appliances are on board (SOLAS 74/00 reg.III/36);
- (EA) 1.2.1.33 confirming that a table or curve of residual deviations for the magnetic compass has been provided, the compass deviation book has been properly maintained and a diagram of the radar installations shadow sectors is displayed (SOLAS 74/00 reg.V/19);
- (EA) 1.2.1.34 checking that operational and, where appropriate, maintenance manuals for all navigational equipment are provided (SOLAS 74/00 reg.V/16);
- (EA) 1.2.1.35 checking that nautical charts and nautical publications necessary for the intended voyage are available and have been updated, and, where electronic systems are used, the required backup system is provided (SOLAS 74/00 regs.V/19 and 27);

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- (EA) 1.2.1.36 checking that the International Code of Signals and an up-to-date copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual have been provided (SOLAS 74/00/02 reg.V/21);
- (EA) 1.2.1.37 checking that records are maintained identifying any pilot ladders placed into service and any repair effected (SOLAS 74/10 reg.V/23.2.4);
- (EA) 1.2.1.38 checking that an illustrated table describing the life-saving signals to be used by ships, aircraft or persons in distress is available (SOLAS 74/00 reg.V/29);
- (EA) 1.2.1.39 checking that records of navigational activities and daily reporting have been maintained (SOLAS 74/00/03 reg.V/28);
- (EA) 1.2.1.40 confirming that a continuous synopsis record is provided (SOLAS 74/02 reg.XI-1/5); and
- (EA) 1.2.1.41 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (EA) 1.2.2 For the life-saving appliances and the other equipment of cargo ships the annual survey should consist of:
- (EA) 1.2.2.1 examining the fire pumps, fire main, hydrants, hoses and nozzles and the international shore connection and checking that each fire pump, including the emergency fire pump, can be operated separately so that two jets of water are produced simultaneously from different hydrants at any part of the ship while the required pressure is maintained in the fire main (SOLAS 74/00/14 reg.II-2/10.2; FSS Code chs.2 and 12) (SOLAS 74/88 regs.II-2/4 and 19);
- (EA) 1.2.2.2 for ships designed to carry containers on or above the weather deck, as applicable, examining the water mist lance and, as appropriate, the mobile water monitors and all necessary hoses, fittings and required fixing hardware (SOLAS 74/00/14 reg.II-2/10.7.3);
- (EA) 1.2.2.3 checking the provision and randomly examining the condition of the portable and non-portable fire extinguishers (SOLAS 74/00 reg.II-2/10.3; FSS Code ch.4) (SOLAS 74/88 reg.II-2/6);
- (EA) 1.2.2.4 confirming that the fire-fighters' outfits including their self-contained compressed air breathing apparatus and emergency escape breathing devices (EEBDs) are complete and in good condition, that the cylinders, including the spare cylinders, of any required self-contained breathing apparatus are suitably charged, and that onboard means of recharging breathing apparatus cylinders used during drills or a suitable number of spare cylinders to replace those used are provided, and provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (SOLAS 74/00/12 regs.II-2/10.10, 13.3.4, 13.4.3 and 15.2.2; FSS Code ch.3) (SOLAS 74/88 reg.II-2/17) (BCH Code, ch.III, part E);
- (EA) 1.2.2.5 checking the operational readiness and maintenance of fire-fighting systems (SOLAS 74/00 reg.II-2/14) (SOLAS 74/88/91 reg.II-2/21);

- (EA) 1.2.2.6 examining the fixed fire-fighting system for the machinery, cargo, vehicle, special category and ro-ro spaces, as appropriate, and confirming that its means of operation is clearly marked (SOLAS 74/00/12/14 regs.II-2/10.4, 10.5, 10.7.1, 10.7.2 and 20.6.1; FSS Code chs.5 to 7) (SOLAS 74/88 regs.II-2/7 and 53);
- (EA) 1.2.2.7 examining the fire-extinguishing and special arrangements in the machinery spaces and confirming, as far as practicable and as appropriate, the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of the funnel and ventilation openings, the closure of power-operated and other doors, the stopping of ventilation and boiler forced and induced draught fans and the stopping of oil fuel and other pumps that discharge flammable liquids (SOLAS 74/00/12/14 regs.II-2/5.2, 8.3, 9.5 and 10.5) (SOLAS 74/88 regs.II-2/7 and 11);
- (EA) 1.2.2.8 checking that fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces and cargo pump-rooms, where applicable, are provided with two separate controls, one for opening of the gas piping and one for discharging the gas from the storage container, each of them located in a release box clearly identified for the particular space (SOLAS 74/08 reg.II-2/10.4.1.5);
- (EA) 1.2.2.9 examining, as far as possible, and testing, as feasible, any fire detection and alarm system and any sample extraction smoke detection system (SOLAS 74/00/10 regs.II-2/7.2, 7.3, 7.4, 7.5.1, 7.5.5, 19.3.3 and 20.4; FSS Code chs.9 and 10) (SOLAS 74/88 regs.II-2/11, 13, 14, 53 and 54);
- (EA) 1.2.2.10 examining the fire-extinguishing systems for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces (SOLAS 74/00 regs.II-2/10.6.3 and 10.6.4; FSS Code chs.5 to 7) (SOLAS 74/88 reg.II-2/18.7) (BCH Code ch.III, part E);
- (EA) 1.2.2.11 examining the helicopter facilities (SOLAS 74/00 reg.II-2/18) (SOLAS 74/88 reg.II-2/18.8);
- (EA) 1.2.2.12 examining the arrangements for oil fuel, lubricating oil and other flammable oils and testing the remote closing of valves for oil fuel, lubricating oil and other flammable oils and the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.2.3.4) (SOLAS 74/88 reg.II-2/15.2.5);
- (EA) 1.2.2.13 examining and testing of the general emergency alarm system (SOLAS 74/88 reg.III/20);
- (EA) 1.2.2.14 examining the fire protection arrangements in cargo, vehicle and ro-ro spaces, including the fire safety arrangements for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo, as applicable, and confirming, as far as practicable and as appropriate, the operation of the means of control provided for closing the various openings (SOLAS 74/00/14 regs.II-2/10.7.1, 10.7.2, 20.2.1, 20.3, 20.6.2, 20-1.2.1, 20-1.3, and 20-1.4) (SOLAS 74/88 reg.II-2/53);

- (EA) 1.2.2.15 examining and testing the portable gas detectors suitable for the detection of the gas fuel, for vehicle carriers carrying motor vehicles with compressed hydrogen or natural gas in their tanks for their own propulsion as cargo (SOLAS 74/00/14 regs.II-2/20-1.2 and 20-1.5);
- (EA) 1.2.2.16 examining, where applicable, the alternative design and arrangements for fire safety or life-saving appliances and arrangements, in accordance with the test, inspection and maintenance requirements, if any, specified in the approved documentation (SOLAS 74/00/06 regs.II-2/17 and III/38);
- (EA) 1.2.2.17 examining, when appropriate, the special arrangements for carrying dangerous goods, including checking the electrical equipment and wiring, the ventilation, the provision of protective clothing and portable appliances and the testing of the water supply, bilge pumping and any water spray system (SOLAS 74/00/08 reg.II-2/19 (except 19.3.8, 19.3.10 and 19.4)) (SOLAS 74/88 reg.II-2/54);
- (EA) 1.2.2.18 checking that emergency instructions are available for each person on board, that copies of the suitably updated muster list are posted in conspicuous places, and that they are in a language understood by all persons on board, and confirming that there are posters or signs in the vicinity of survival craft and their launching stations (SOLAS 74/00 regs.III/8, 9 and 37);
- (EA) 1.2.2.19 checking that the life-saving appliances are of an international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea (LSA Code section 1.2.2.6);
- (EA) 1.2.2.20 examining each survival craft, including its equipment and, when fitted, the on-load release mechanism and hydrostatic lock and, for inflatable liferafts, the hydrostatic release unit and float-free arrangements; checking that the hand-held flares are not out of date (SOLAS 74/00 regs.III/16, 20 and 31; LSA Code sections 2.5, 3.1 to 3.3, 4.1.5, 4.4.7 and 4.4.8);
- (EA) 1.2.2.21 for liferafts provided for easy side-to-side transfer, verifying that they are less than 185 kg (SOLAS 74/00 reg.III/31.1);
- (EA) 1.2.2.22 checking that the falls used in launching appliances have been periodically inspected and have been renewed as necessary in the past five years (SOLAS 74/00 reg.III/20);
- (EA) 1.2.2.23 examining the embarkation arrangements and launching appliances for each survival craft; each lifeboat should be lowered to the embarkation position or, if the stowage position is the embarkation position, lowered a short distance and, if practicable, one of the survival craft should be lowered to the water; the operation of the launching appliances for davit-launched liferafts should be demonstrated (SOLAS 74/00 regs.III/11, 12, 13, 16, 20 and 31; LSA Code section 6.1);
- (EA) 1.2.2.24 checking that a thorough examination of launching appliances, including the dynamic testing of the winch brake, and servicing of lifeboat and rescue boat on-load release gear, including free-fall lifeboat release systems and davit-launched liferaft automatic release hooks, has been carried out; the operational testing of free-fall lifeboat release systems

- shall be performed either by free-fall launch with only the operating crew on board or by a simulated launching carried out based on MSC.1/Circ.1206/Rev.1 (SOLAS 74/00/12 reg.III/ 20);
- (EA) 1.2.2.25 examining each rescue boat, including its equipment; for inflatable rescue boats, confirming that they are stowed in a fully inflated condition (SOLAS 74/88 reg.III/14 and 31; LSA Code sections 2.5 and 5.1);
- (EA) 1.2.2.26 confirming that there are posters or signs in the vicinity of the survival craft, their launching stations and containers, brackets, racks and other similar stowage locations for life-saving equipment (SOLAS 74/00 regs.III/9 and 20);
- (EA) 1.2.2.27 examining the embarkation and recovery arrangements for each rescue boat; if practicable, the rescue boat(s) should be lowered to the water and its recovery demonstrated (SOLAS 74/00 regs.III/14, 17 and 31; LSA Code section 6.1);
- (EA) 1.2.2.28 testing that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactorily and operate both ahead and astern;
- (EA) 1.2.2.29 examining and checking the operation of two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 reg.III/6);
- (EA) 1.2.2.30 examining the line-throwing appliance and checking that its rockets and the ship's distress signals are not out of date, and examining and checking the operation of onboard communications equipment and the general emergency alarm system (SOLAS 74/00 regs.II-2/12.2 and III/6 and 18; LSA Code sections 3.1, 7.1 and 7.2);
- (EA) 1.2.2.31 examining the provision, disposition, stowage and condition of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejacket* and their whistles and lights, immersion suits and anti-exposure suits and checking that their associated batteries are not out of date (SOLAS 74/88/06 regs.III/7 and 32, LSA Code sections 2.1 to 2.5);
- (EA) 1.2.2.32 checking that immersion suits designed to be worn in conjunction with a lifejacket are suitably marked (LSA Code section 2.3.1);
- (EA) 1.2.2.33 checking the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including when supplied from the emergency source of power (SOLAS 74/88 regs.II-1/42 or 43 and III/11);
- (EA) 1.2.2.34 checking that the required navigation lights, shapes and sound signalling equipment are in order (COLREG 1972, rules 20 to 24, 27 to 30 and 33);
- (EA) 1.2.2.35 checking that the following items of navigation equipment are in working order, as appropriate: daylight signalling lamp, magnetic compass, transmitting heading device, gyro compass, gyro compass repeaters,

* SOLAS regulation III/7.2.1.5 should be considered.

radar installation(s), electronic plotting aid, automatic tracking aid(s) or automatic radar plotting aid(s), echo-sounding device, speed and distance measuring device(s), rudder angle indicator, propeller rate of revolution indicator, variable-pitch propeller pitch and operational mode indicator, rate-of-turn indicator, heading or track control system, Global Navigation Satellite System (GNSS) receiver, terrestrial radio navigation system and sound reception system, means of communication with emergency steering position, a pelorus or compass bearing device, means for correcting heading and bearings, BNWAS as applicable and ECDIS including backup arrangements, as applicable; items that cannot be checked with the ship in port should be verified from records (SOLAS 74/00/09/13 reg.V/19);

- (EA) 1.2.2.36 checking that the International Code of Signals is available (SOLAS 74/00 reg.V/21);
- (EA) 1.2.2.37 checking the rotational deployment of the marine evacuation system (MES) (SOLAS 74/88 reg.III/20.8.2; LSA Code section 6.2.2.2);
- (EA) 1.2.2.38 checking the provision, specification, operation and annual performance test of the voyage data recorder, where fitted (SOLAS 74/00/04 reg.V/20);
- (EA) 1.2.2.39 checking the provision and operation of the automatic identification system, where fitted, and whether the annual test has been carried out and a copy of the test report is on board (SOLAS 74/00/04/10 regs.V/18.9 and 19);
- (EA) 1.2.2.40 checking that a valid conformance test report of the long-range identification and tracking system is available on board, where fitted (SOLAS 74/04 reg.V/19-1);
- (EA) 1.2.2.41 checking the provision and specification of the pilot ladders and pilot transfer arrangements (SOLAS 74/00/10 reg.V/23);
- (EA) 1.2.2.42 checking that the means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders, are in satisfactory condition, as applicable (SOLAS 74/08 reg.II-1/3-9);
- (EA) 1.2.2.43 checking, when appropriate, the provision of an appropriate instrument for measuring the concentration of gas or oxygen in the air together with detailed instructions for its use (SOLAS 74/08 reg.VI/3); and
- (EA) 1.2.2.44 confirming that ship-specific plans and procedures for recovery of persons from the water have been provided (SOLAS 74/12 reg.III/17-1).
- (EA) 1.2.3 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for tankers the annual survey should consist of:
 - (EA) 1.2.3.1 checking the deck foam system, including the supplies of foam concentrate and testing that the minimum number of jets of water at the required pressure in the fire main is obtained (see (EA) 1.2.2.1) when the system is in operation (SOLAS 74/00 reg.II-2/10.8; FSS Code ch.14) (SOLAS 74/88 reg.II-2/61);

- (EA) 1.2.3.2 examining the inert gas system (SOLAS 74/00/14 reg.II-2/4.5.5; FSS Code ch.15) (SOLAS 74/88 reg.II-2/62), and in particular:
 - (EA) 1.2.3.2.1 examining externally for any sign of gas or effluent leakage;
 - (EA) 1.2.3.2.2 confirming the proper operation of both inert gas blowers;
 - (EA) 1.2.3.2.3 observing the operation of the scrubber-room ventilation system;
 - (EA) 1.2.3.2.4 checking the deck water seal for automatic filling and draining, and the arrangements for protecting the system against freezing;
 - (EA) 1.2.3.2.5 where a double block and bleed valve is installed, checking the automatic operations of the block and the bleed valves upon loss of power;
 - (EA) 1.2.3.2.6 where two shut-off valves in series with a venting valve in between are used as non-return devices, checking the automatic operation of the venting valve, and the alarm for faulty operation of the valves;
 - (EA) 1.2.3.2.7 examining the operation of all remotely operated or automatically controlled valves and, in particular, the flue gas isolating valves;
 - (EA) 1.2.3.2.8 observing a test of the interlocking feature of soot blowers;
 - (EA) 1.2.3.2.9 observing that the gas pressure regulating valve automatically closes when the inert gas blowers are secured;
 - (EA) 1.2.3.2.10 checking the means for separating the cargo tank not being inerted from the inert gas main;
 - (EA) 1.2.3.2.11 checking the alarms of the two oxygen sensors positioned in the space or spaces containing the inert gas system;
 - (EA) 1.2.3.2.12 checking, as far as practicable, the following alarms and safety devices of the inert gas system using simulated conditions where necessary:
 - (EA) 1.2.3.2.12.1 high oxygen content of gas in the inert gas main;
 - (EA) 1.2.3.2.12.2 low gas pressure in the inert gas main;
 - (EA) 1.2.3.2.12.3 low pressure in the supply to the deck water seal;
 - (EA) 1.2.3.2.12.4 high temperature of gas in the inert gas main;
 - (EA) 1.2.3.2.12.5 low water pressure or low water-flow rate;
 - (EA) 1.2.3.2.12.6 accuracy of portable and fixed oxygen-measuring equipment by means of calibration gas;
 - (EA) 1.2.3.2.12.7 high water level in the scrubber;
 - (EA) 1.2.3.2.12.8 failure of the inert gas blowers;
 - (EA) 1.2.3.2.12.9 failure of the power supply to the automatic control system for the gas regulating valve and to the instrumentation for continuous indication and permanent recording of pressure and oxygen content in the inert gas main;

- (EA) 1.2.3.2.12.10 high pressure of gas in the inert gas main;
- (EA) 1.2.3.3 checking, when practicable, the proper operation of the inert gas system on completion of the checks listed above (FSS Code ch.15) (SOLAS 74/88 reg.II-2/62);
- (EA) 1.2.3.4 examining the fixed fire-fighting system for the cargo pump-rooms (SOLAS 74/00 reg.II-2/10.9) (SOLAS 74/88 reg.II-2/63) and confirming, as far as practicable and when appropriate, the operation of the remote means for closing the various openings;
- (EA) 1.2.3.5 checking for all tankers the provision of at least one portable instrument for measuring oxygen and one for measuring flammable vapour concentrations, together with a sufficient set of spares, and suitable means for the calibration of these instruments (SOLAS 74/10 reg.II-2/4.5.7.1);
- (EA) 1.2.3.6 examining the arrangements for gas measurement in double hull spaces and double bottom spaces, including the fitting of permanent gas sampling lines, where appropriate (SOLAS 74/10 reg.II-2/4.5.7.2);
- (EA) 1.2.3.7 examining, as far as possible, and testing the fixed hydrocarbon gas detection system (SOLAS 74/10 reg.II-2/4.5.7.3 and FSS Code ch.16);
- (EA) 1.2.3.8 checking the condition and operation of water spray and air supply systems that are in totally enclosed lifeboats and have self-contained air support systems (LSA Code sections 4.4 and 4.6 to 4.9);
- (EA) 1.2.3.9 checking the protection of the cargo pump-room (SOLAS 74/00 reg.II-2/4.5.10), and in particular:
 - (EA) 1.2.3.9.1 checking temperature sensing devices for bulkhead glands and alarms;
 - (EA) 1.2.3.9.2 checking the interlock between lighting and ventilation;
 - (EA) 1.2.3.9.3 checking the gas detection system; and
 - (EA) 1.2.3.9.4 checking bilge level monitoring devices and alarms.
- (EA) 1.2.4 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code, the annual survey should consist of:
 - (EA) 1.2.4.1 examining the arrangements for fire protection and fire extinction (IGF Code ch.11);
 - (EA) 1.2.4.2 examining the fire pump capacity and working pressure in relation to the water spray system, if the water spray system is part of the fire main system (IGF Code para.11.4.1);
 - (EA) 1.2.4.3 examining the isolating valves of the fire main, when the fuel storage tank(s) is located on the open deck (IGF Code para.11.4.2);
 - (EA) 1.2.4.4 examining the water spray system for cooling, fire protection and crew protection (IGF Code para.11.5);

- (EA) 1.2.4.5 examining the water spray system arrangement for fuel storage tanks(s) on open deck including remote operation (IGF Code para.11.5);
- (EA) 1.2.4.6 examining the fixed fire detection and alarm system (IGF Code para.11.7);
- (EA) 1.2.4.7 examining the fixed dry chemical powder fire-extinguishing system for the bunkering station area (IGF Code para.11.6.1); and
- (EA) 1.2.4.8 examining the portable dry powder extinguisher (IGF Code para.11.6.2).
- (EA) 1.2.5 For the life-saving appliances and the other equipment of cargo ships the completion of the annual survey should consist of:
 - (EA) 1.2.5.1 after a satisfactory survey, the Cargo Ship Safety Equipment Certificate should be endorsed; and
 - (EA) 1.2.5.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (EP) **1.3 Periodical surveys** – see part "General" section 4.4.
 - (EP) 1.3.1 For the life-saving appliances and the other equipment of cargo ships the examination of current certificates and other records should consist of:
 - (EP) 1.3.1.1 the provisions of (EA) 1.2.1.
 - (EP) 1.3.2 For the life-saving appliances and the other equipment of cargo ships the periodical survey should consist of:
 - (EP) 1.3.2.1 the provisions of (EA) 1.2.2;
 - (EP) 1.3.2.2 confirming, during the examination of the fixed fire-fighting system for the machinery, cargo, vehicle, special category and ro-ro spaces, that, as appropriate, any foam compounds and the CO₂ capacity have been checked and that the distribution pipework has been proved clear (SOLAS 74/00/12/14 regs.II-2/10.4, 10.5, 10.7.1, 10.7.2 and 20.6.1; FSS Code chs.5 to 7) (SOLAS 74/88 regs.II-2/7 and 53);
 - (EP) 1.3.2.3 testing the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of the funnel and ventilation openings, the closure of power-operated and other doors, the stopping of ventilation and boiler forced and induced draught fans and the stopping of oil fuel and other pumps that discharge flammable liquids (SOLAS 74/00/14 regs.II-2/5.2, 8.3, 9.5 and 10.5) (SOLAS 74/88 reg.II-2/11);
 - (EP) 1.3.2.4 testing any fire detection and alarm system and any sample extraction smoke detection system (SOLAS 74/00/10 regs.II-2/7.2, 7.3, 7.4, 7.5.5, 19.3.3 and 20.4; FSS Code chs.9 and 10) (SOLAS 74/88 regs.II-2/11, 13, 14, 53 and 54);
 - (EP) 1.3.2.5 testing, as feasible, the fire-extinguishing system for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces (SOLAS 74/00 regs.II-2/10.6.3 and 10.6.4; FSS Code chs.5 to 7) (SOLAS 74/88 reg.II-2/18.7);

- (EP) 1.3.2.6 testing the remote closing of valves for oil fuel, lubricating oil and other flammable oils and the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.2.3.4) (SOLAS 74/88 reg.II-2/15.2.5);
- (EP) 1.3.2.7 testing the operation of the means of control provided for closing the various openings for the cargo, vehicle, special category and ro-ro spaces (SOLAS 74/00/14 regs.II-2/5.2 and 20.3) (SOLAS 74/88 reg.II-2/53); and
- (EP) 1.3.2.8 testing, as feasible, the helicopter facilities (SOLAS 74/00 reg.II-2/18) (SOLAS 74/88 reg.II-2/18.8).
- (EP) 1.3.3 For the life-saving appliances and the other equipment for the additional requirements for tankers the periodical survey should consist of:
- (EP) 1.3.3.1 the provisions of (EA) 1.2.3; and
- (EP) 1.3.3.2 confirming during the examination of the fixed fire-fighting system for the cargo pump-rooms that, as appropriate, any foam compounds have been checked and that the distribution pipework has been proved clear (SOLAS 74/00 reg.II-2/10.9; FSS Code chs.5 to 7) (SOLAS 74/88 reg.II-2/63) and checking the operation of the remote means for closing the various openings.
- (EP) 1.3.4 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code, the periodical survey should consist of:
- (EP) 1.3.4.1 the provisions of (EA) 1.2.4.
- (EP) 1.3.5 For the life-saving appliances and the other equipment of cargo ships the completion of the periodical survey should consist of:
- (EP) 1.3.5.1 after a satisfactory survey, the cargo Ship Safety Equipment Certificate should be endorsed; and
- (EP) 1.3.5.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (ER) **1.4** **Renewal surveys** – see part "General" section 4.5
- (ER) 1.4.1 For the life-saving appliances and the other equipment of cargo ships the examination of current certificates and other records should consist of:
- (ER) 1.4.1.1 the provisions of (EA) 1.2.1, except for the validity of the Cargo Ship Safety Equipment Certificate.
- (ER) 1.4.2 For the life-saving appliances and the other equipment of cargo ships the renewal survey should consist of:
- (ER) 1.4.2.1 the provisions of (EP) 1.3.2; and

- (ER) 1.4.2.2 for ships designed to carry containers on or above the weather deck, as applicable, testing that the mobile water monitors can be securely fixed to the ship structure ensuring safe and effective operation, and testing that the mobile water monitor jets reach the top tier of containers with all required monitors and water jets from fire hoses operated simultaneously (SOLAS 74/00/14 reg.II-2/10.7.3).
- (ER) 1.4.3 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for tankers the renewal survey should consist of:
- (ER) 1.4.3.1 the provisions of (EP) 1.3.3; and
- (ER) 1.4.3.2 examining the deck water seal for the inert gas system internally and checking the condition of the non-return valve (FSS Code ch.15, paragraphs 2.2.3.1 and 2.3.1.6.2) (SOLAS 74/88 reg.II-2/62).
- (ER) 1.4.4 For the life-saving appliances and the other equipment of cargo ships, concerning the additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code, the renewal survey should consist of:
- (ER) 1.4.4.1 the provisions of (EP) 1.3.4.
- (ER) 1.4.5 For the life-saving appliances and the other equipment of cargo ships the completion of the renewal survey should consist of:
- (ER) 1.4.5.1 after a satisfactory survey, the Cargo Ship Safety Equipment Certificate should be issued.
- (C) **2** **GUIDELINES FOR SURVEYS FOR THE CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE**
- (CI) **2.1** **Initial surveys** – see part "General", section 4.1.
- (CI) 2.1.1 For the hull, machinery and equipment of cargo ships the examination of plans and designs should consist of:
- (CI) 2.1.1.1 examining the plans for the hull (SOLAS 74/88 regs.II-1/11, 12-1, 14, 18 and 19) (SOLAS 74/06 regs.II-1/9, 10, 11, 12, 13-1, 15, 15-1, 16 and 16-1);
- (CI) 2.1.1.2 examining plans to verify that bulk carriers of 150 m in length and above, where appropriate, meet the applicable structural requirements of an organization recognized by the Administration, or national standards of the Administration, conforming to the functional requirements of the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers (SOLAS 74/10 reg.II-1/3-10);
- (CI) 2.1.1.3 examining the plans for the bilge pumping and drainage systems (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05/08/09 regs.II-1/35-1 and II-2/20.6.1.4);

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- (CI) 2.1.1.4 examining the stability information and the damage control plans (SOLAS 74/88/00 regs.II-1/22, 23-1 and 25-8) (SOLAS 74/06/08 regs.II-1/5, 5-1 and 19; IS Code chs.1, 2 and 3);
- (CI) 2.1.1.5 examining the plans for the machinery installation (SOLAS 74/88 regs.II-1/26 to 36);
- (CI) 2.1.1.6 examining the plans for the electrical installation (SOLAS 74/88 regs.II-1/40, 41, 43, 44 and 45);
- (CI) 2.1.1.7 examining, where applicable, the approved documentation for the alternative design and arrangements (SOLAS 74/00/15 regs.II-1/55 and II-2/17 and IGF Code, ch.2);
- (CI) 2.1.1.8 examining the plans for the periodically unattended machinery spaces (SOLAS 74/00 reg.II-2/4.2.5) (SOLAS 74/88 regs.II-1/46 to 53);
- (CI) 2.1.1.9 examining the plans for the structural fire protection, including ventilation systems, in accommodation and service spaces, control stations and machinery spaces and oil fuel and lubricating oil systems (SOLAS 74/00/12/14 regs.II-2/4.2.2, 4.2.2.3, 4.2.2.4, 4.2.2.5, 4.4, 5.2, 5.3.1, 5.3.2, 6.2, 6.3, 7.5.5, 7.7, 8.2, 8.4, 9.2.1, 9.3, 9.5, 9.7.1, 9.7.2, 9.7.3, 9.7.5.2, 9.7.6, 11.2, 11.3, 11.4, 11.5 and 17) (SOLAS 74/88 regs.II-2/42 to 52 (except 45 and 51));
- (CI) 2.1.1.10 examining the plans for the structural fire protection, including ventilation systems, in cargo spaces (SOLAS 74/00/15 regs.II-2/5.2, 9.7.1, 9.7.2, 9.7.3, 9.7.6, 11.2, 11.3, 11.5, 19.3.8, 19.3.10, 20.2.1, 20.3, 20-1.2.1, 20-1.3 and 20-1.4) (SOLAS 74/88 regs.II-2/42 to 54);
- (CI) 2.1.1.11 examining the plans for the means of escape (SOLAS 74/00/14 regs.II-2/13.2, 13.3.1, 13.3.3, 13.4.2 and 13.6; FSS Code ch.13 paragraph 3) (SOLAS 74/88 reg.II-2/45);
- (CI) 2.1.1.12 examining the plans for the arrangements for gaseous fuel for domestic purposes (SOLAS 74/00 reg.II-2/4.3) (SOLAS 74/88 reg.II-2/51);
- (CI) 2.1.1.13 examining the arrangements for the openings in the shell plating below the freeboard deck (SOLAS 74/06 reg.II-1/15);
- (CI) 2.1.1.14 examining the plans for helicopter facilities for ships fitted with such facilities (SOLAS 74/00 reg.II-2/18) (SOLAS 74/88 reg.II-2/18.8);
- (CI) 2.1.1.15 examining the Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units (SOLAS 74/98/02_reg.VI/5.6);
- (CI) 2.1.1.16 checking for the loading booklet for carriage of cargoes in bulk (SOLAS 74/00 reg.VI/7);
- (CI) 2.1.1.17 examining the loading instrument for bulk carriers of 150 m in length and upwards (SOLAS 74/97/04 reg.XII/11);
- (CI) 2.1.1.18 confirming that bulk carriers, when appropriate, meet the requirements of damage stability and structural strength with its cargo hold(s) flooded, including other structural requirements (SOLAS 74/97/04 regs.XII/3, 4, 5 and 6);

- (CI) 2.1.1.19 examining the functionality of bilge well alarms to all cargo holds and conveyor tunnels (SOLAS 74/97/04 reg.XII/9);
- (CI) 2.1.1.20 confirming that the ship is constructed in accordance with the requirements of a recognized classification society, or one with equivalent national standards (SOLAS 74/00 reg.II-1/3-1);
- (CI) 2.1.1.21 confirming that a corrosion prevention system is fitted, when appropriate, in dedicated seawater ballast tanks arranged in ships and double-side skin spaces arranged in bulk carriers of 150 m in length and upwards (SOLAS 74/04/06 reg.II-1/3-2);
- (CI) 2.1.1.22 examining, for oil tankers and bulk carriers when appropriate, the Ship Structure Access Manual (SOLAS 74/00/02/04 reg.II-1/3-6(4));
- (CI) 2.1.1.23 for bulk carriers, checking the arrangements for hold, ballast and dry space water level detectors and their audible and visual alarms (SOLAS 74/02 reg.XII/12);
- (CI) 2.1.1.24 for bulk carriers, checking the arrangements for availability of draining and pumping systems forward of the collision bulkhead (SOLAS 74/02 reg.XII/13);
- (CI) 2.1.1.25 examining the calculation and drawings for the sufficient safe working load of towing and mooring equipment to enable the safe conduct of all towing and mooring operation in normal operation of the ship (SOLAS 74/04 reg.II-1/3-8); and
- (CI) 2.1.1.26 checking the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5).
- (CI) 2.1.2 For the hull, machinery and equipment of cargo ships, concerning the examination of plans and designs the additional requirements for oil tankers, chemical tankers and gas carriers should consist of:
 - (CI) 2.1.2.1 examining the plans for the steering gear (SOLAS 74/14 reg.II-1/29);
 - (CI) 2.1.2.2 examining the plans for the electrical installation (SOLAS 74/00 reg.II-1/43) (SOLAS 74/88 reg.II-1/45);
 - (CI) 2.1.2.3 examining the plans for the structural fire protection (SOLAS 74/00/15 regs.II-2/1.6, 4.5.1, 4.5.2, 4.5.9, 9.2.4, 9.3, 9.4, 9.5, 9.6.3 and 11.6) (SOLAS 74/88 regs.II-2/55 to 58);
 - (CI) 2.1.2.4 examining the plans for the cargo tank venting, cargo tank purging and gas freeing and other ventilation arrangements and protection of the cargo tank structure against pressure or vacuum (SOLAS 74/00/15 regs.II-2/4.5.3, 4.5.4, 4.5.6, 4.5.8, 11.6 and 16.3) (SOLAS 74/88 reg.II-2/59);
 - (CI) 2.1.2.5 examining the plans of access to bow (SOLAS 74/00/04 reg.II-1/3-3);

- (CI) 2.1.2.6 examining the plans for emergency towing, for tankers of not less than 20,000 tonnes deadweight (SOLAS 74/00/04 reg.II-1/3-4);
- (CI) 2.1.2.7 checking the access to spaces in the cargo area of oil tankers (SOLAS 74/88/92/00 reg.II-1/12-2) (SOLAS 74/04 reg.II-1/3-6); and
- (CI) 2.1.2.8 examining plans to verify that oil tankers of 150 m in length and above, where appropriate, meet the applicable structural requirements of an organization recognized by the Administration, conforming to the functional requirements of the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers (SOLAS 74/10 reg.II-1/3-10).
- (CI) 2.1.3 For the hull, machinery and equipment of cargo ships, concerning the examination of plans and designs additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code should consist of:
 - (CI) 2.1.3.1 examining the plans for the fuel containment systems, control of vapour space of liquefied gas fuel tanks, vapour detection, gauging, loading limits for liquefied gas fuel tanks and other special requirements (IGF Code chs.5, 6, 7, 8 and 15));
 - (CI) 2.1.3.2 examining the plans for the ship arrangements (IGF Code ch.5);
 - (CI) 2.1.3.3 examining the plans for piping systems (IGF Code chs.5, 6, 7 and 9);
 - (CI) 2.1.3.4 examining the plans for the pressure control (IGF Code ch.6);
 - (CI) 2.1.3.5 examining the plans for the environmental control (IGF Code ch.6);
 - (CI) 2.1.3.6 examining the plans for machinery installation (IGF Code ch.10);
 - (CI) 2.1.3.7 examining the plans for fire protection (IGF Code section 11.3);
 - (CI) 2.1.3.8 examining the plans for the ventilation systems (IGF Code chs.12 and 13);
 - (CI) 2.1.3.9 examining the plans for the electrical installations (IGF Code chs.12 and 14); and
 - (CI) 2.1.3.10 examining the plans for the control, monitoring and safety systems (IGF Code ch.15).
- (CI) 2.1.4 For the hull, machinery and equipment of cargo ships the survey during construction and after installation should consist of:
 - (CI) 2.1.4.1 confirming that the collision bulkhead is watertight up to the freeboard deck, that the valves fitted on the pipes piercing the collision bulkhead are operable from above the freeboard deck and that there are no doors, manholes, ventilation ducts or any other openings (SOLAS 74/88 reg.II-1/11) (SOLAS 74/06 reg.II-1/12);

- (CI) 2.1.4.2 confirming in accordance with the survey plan that bulk carriers of 150 m in length and above, where appropriate, meet the applicable structural requirements of an organization recognized by the Administration, or national standards of the Administration, conforming to the functional requirements of the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers (SOLAS 74/10 reg.II-1/3.10);
- (CI) 2.1.4.3 confirming that the subdivision bulkheads are constructed and tested as watertight up to the freeboard deck or margin line, as applicable (SOLAS 74/88 reg.II-1/14) (SOLAS 74/06 reg.II-1/10 and 11);
- (CI) 2.1.4.4 confirming that each watertight door has been tested (SOLAS 74/88 reg.II-1/18) (SOLAS 74/06 reg.II-1/16);
- (CI) 2.1.4.5 confirming that the arrangements for operating any watertight doors are generally in accordance with the requirements for passenger ships and carrying out similar tests (see (PI) 5.1.2.6 to (PI) 5.1.2.8) (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13-1);
- (CI) 2.1.4.6 confirming by a hose or flooding test the watertightness of watertight decks and trunks, tunnels and ventilators (SOLAS 74/88 reg.II-1/19) (SOLAS 74/06 reg.II-1/16-1);
- (CI) 2.1.4.7 confirming that each bilge pump and the bilge pumping system provided for each watertight compartment are working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
- (CI) 2.1.4.8 confirming that the drainage system of enclosed cargo spaces situated on the freeboard deck is working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
- (CI) 2.1.4.8.1 examining visually the drainage facilities for blockage or other damage and confirming the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5);
- (CI) 2.1.4.9 conducting an inclining test, when this is required (SOLAS 74/88 reg.II-1/22) (SOLAS 74/06 reg.II-1/5);
- (CI) 2.1.4.10 confirming that the machinery, boilers and other pressure vessels, associated piping systems and fittings are installed and protected so as to reduce to a minimum any danger to persons on board, due regard being given to moving parts, hot surfaces and other hazards (SOLAS 74/00/15 reg.II-2/4.2 (except 4.2.2.3.4 relating to remote closing of valves included in safety equipment)) (SOLAS 74/88 regs.II-1/26, 32, 33 and 34) (SOLAS 74/88/06 reg.II-2/15 (except 15.2.5));
- (CI) 2.1.4.11 confirming that the normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative (SOLAS 74/88 reg.II-1/26);
- (CI) 2.1.4.12 confirming that means are provided so that the machinery can be brought into operation from the dead ship condition without external aid (SOLAS 74/88 reg.II-1/26);

- (CI) 2.1.4.13 confirming that the boilers, all parts of the machinery, all steam, hydraulic, pneumatic and other systems and their associated fittings which are under internal pressure have been subjected to the appropriate tests, including a pressure test as may be specified in the requirements of the Administration or the classification societies (SOLAS 74/88 reg.II-1/26);
- (CI) 2.1.4.14 confirming that means are provided to ensure that the safe speed is not exceeded where there is the risk of machinery overspeeding (SOLAS 74/88 reg.II-1/27);
- (CI) 2.1.4.15 confirming that, where practicable, means are provided to protect against overpressure in the parts of main, auxiliary and other machinery that are subject to internal pressure and may be subject to dangerous overpressure (SOLAS 74/88 reg.II-1/27);
- (CI) 2.1.4.16 confirming that, when required, crankcase explosion relief devices are fitted to internal combustion engines and that they are arranged so as to minimize the possibility of injury to personnel (SOLAS 74/88 reg.II-1/27);
- (CI) 2.1.4.17 confirming that main turbine propulsion machinery and, where applicable, main internal combustion propulsion machinery and auxiliary machinery are provided with automatic shut-off arrangements in the case of failures, such as lubricating oil supply failure, which could rapidly lead to a complete breakdown, serious damage or explosion (SOLAS 74/88 reg.II-1/27);
- (CI) 2.1.4.18 confirming and recording the ability of the machinery to reverse the direction of the thrust of the propeller in sufficient time and to bring the ship to rest within a reasonable distance, including the effectiveness of any supplementary means of manoeuvring or stopping the ship* (SOLAS 74/88 reg.II-1/28);
- (CI) 2.1.4.19 confirming that the main and auxiliary steering gear are so arranged that the failure of one of them does not render the other inoperative† (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.20 confirming that, where appropriate, essential components of the steering gear are permanently lubricated or provided with lubrication fittings (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.21 confirming that relief valves are fitted to any part of a steering gear hydraulic system which can be isolated and in which pressure can be generated from the power source or from external forces and that these relief valves are set to a pressure not exceeding the design pressure (SOLAS 74/88/14 reg.II-1/29);

* For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

† For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

- (CI) 2.1.4.22 confirming that the main steering gear is capable of steering the ship at maximum ahead service speed and is capable of putting the rudder over from 35° on one side to 35° on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and, under the same conditions, from 35° on either side to 30° on the other side in not more than 28 s,^{*} or, where demonstration at the deepest seagoing draught is impracticable, with alternative permissible sea trial loading condition[†] (SOLAS 74/88 reg.II-1/29);
- (CI) 2.1.4.23 confirming that the auxiliary steering gear is capable of steering the ship at navigable speed and of being brought speedily into action in an emergency and that it is capable of putting the rudder over from 15° on one side to 15° on the other side in not more than 60 s with the ship at its deepest seagoing draught and running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater,[‡] or, where this is impracticable, with an alternative permissible sea trial loading condition[§] (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.24 confirming that the main and auxiliary steering gear power units restart automatically when power is restored after a power failure, that they are capable of being brought into operation from a position on the navigating bridge and that, in the event of a power failure to any one of the steering gear power units, an audible and visual alarm is given on the navigating bridge (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.25 confirming that, where the main steering gear comprises two or more identical power units and an auxiliary steering gear is not fitted, a defect can be isolated so that steering capability can be maintained or speedily regained after a single failure in its piping system or in one of the power units^{**} (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.26 confirming that the control systems for the main steering gear from both the navigating bridge and the steering gear compartment are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.27 confirming that, where the main steering gear comprises two or more identical power units and an auxiliary steering gear is not fitted, the two independent control systems from the navigating bridge are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);

* For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

† Refer to the *Unified interpretations of SOLAS regulations II-1/29.3 and II-1/29.4* (MSC.1/Circ.1536).

‡ For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

§ Refer to the *Unified interpretations of SOLAS regulations II-1/29.3 and II-1/29.4* (MSC.1/Circ.1536).

** For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

- (CI) 2.1.4.28 confirming that the control system for the auxiliary steering gear in the steering gear compartment and, if this gear is power-operated, from the navigating bridge are operating satisfactorily and that the latter is independent of the control system for the main steering gear (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.29 confirming that the control system for any main and auxiliary steering gear control system operable from the navigating bridge is capable of being brought into operation from a position on the navigating bridge, that means are provided in the steering gear compartment for disconnecting it from the steering gear that it serves, and that an audible and visual alarm is given on the navigating bridge in the event of a failure of electrical power supply (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.30 confirming that the electric power circuits and steering gear control systems, together with their associated components, cables and pipes, are separated, as far as practicable, throughout their length (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.31 confirming that the means of communication between the bridge and the steering gear compartment is operating satisfactorily and that, with ships having emergency steering positions, a telephone or other means of communication for relaying heading information and supplying visual compass readings to the emergency steering position are provided (SOLAS 74/88/14 reg.II-1/29) (SOLAS 74/00 reg.V/19);
- (CI) 2.1.4.32 confirming that the angular position of the rudder is indicated independently of the steering control system on the navigating bridge if the main steering gear is power-operated and that this angular position is given in the steering gear compartment (SOLAS 74/88/14 reg.II-1/29) (SOLAS 74/00 reg.V/19);
- (CI) 2.1.4.33 confirming that with a hydraulic power-operated steering gear the audible and visual low-level alarms on the navigating bridge and in the machinery space for each hydraulic fluid reservoir are operating satisfactorily and that at least one power actuating system including the reservoir can be recharged from a position within the steering gear compartment by means of a fixed storage tank (to which a contents gauge is fitted) with fixed piping (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.34 confirming that the steering gear compartment is readily accessible, that it is separated, as far as practicable, from machinery spaces and that it is provided with suitable arrangements to ensure working access to steering gear machinery and controls under safe conditions (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.4.35 confirming that with electric and electro-hydraulic steering gear the means are provided for indicating on the navigating bridge and at a main machinery control position that the motors are running and that the overload alarm and alarm for the loss of a phase in a three-phase supply located at the main machinery control position are operating satisfactorily (SOLAS 74/88 reg.II-1/30);

- (CI) 2.1.4.36 confirming that the main and auxiliary machinery essential for propulsion and the safety of the ship are provided with the effective means for its operation and control (SOLAS 74/88 reg.II-1/31);
- (CI) 2.1.4.37 confirming that appropriate means are provided where it is intended that the propulsion machinery should be remotely controlled from the navigating bridge, including, where necessary, the control, monitoring, reporting, alert and safety actions (SOLAS 74/00/02 reg.II-1/31);
- (CI) 2.1.4.38 confirming that arrangements to operate main and other machinery from a machinery control room are satisfactory (SOLAS 74/88 reg.II-1/31);
- (CI) 2.1.4.39 confirming that, in general, means are provided for manually overriding automatic controls and that a failure does not prevent the use of the manual override (SOLAS 74/88 reg.II-1/31);
- (CI) 2.1.4.40 confirming that oil-fired and exhaust gas boilers, unfired steam generators, steam pipe systems and air pressure systems are fitted with the appropriate safety features (SOLAS 74/88 regs.II-1/32, 33 and 34);
- (CI) 2.1.4.41 confirming the operation of the ventilation for the machinery spaces (SOLAS 74/88 reg.II-1/35);
- (CI) 2.1.4.42 when appropriate, confirming that the measures to prevent noise in machinery spaces are effective (SOLAS 74/88 reg.II-1/36 and SOLAS 74/12 reg.II-1/3-12.2); or confirming that the ship was constructed to reduce onboard noise and to protect personnel from noise in accordance with the Code on Noise Levels on board Ships, adopted by resolution MSC.337(91), as amended (SOLAS 74/12 reg.II-1/3-12);
- (CI) 2.1.4.43 confirming that the engine-room telegraph giving visual indication of the orders and answers both in the machinery space and on the navigating bridge is operating satisfactorily (SOLAS 74/88 reg.II-1/37);
- (CI) 2.1.4.44 confirming that the second means of communication between the navigation bridge and machinery space is also operating satisfactorily and that appropriate means are provided to any other positions from which the engines are controlled (SOLAS 74/88 reg.II-1/37);
- (CI) 2.1.4.45 confirming that the engineer's alarm is clearly audible in the engineers' accommodation (SOLAS 74/88 reg.II-1/38);
- (CI) 2.1.4.46 confirming that precautions, taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces, are efficient (SOLAS 74/00 reg.II-2/4.2.2.3);
- (CI) 2.1.4.47 confirming that the means of ascertaining the amount of oil contained in any oil tank are in good working condition (SOLAS 74/00 reg.II-2/4.2.2.3.5);
- (CI) 2.1.4.48 confirming that the devices provided to prevent overpressure in any oil tank or in any part of the oil system, including the filling pipes, are in good working condition (SOLAS 74/00 reg.II-2/4.2.2.4);

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- (CI) 2.1.4.49 confirming that forepeak tanks are not intended for carriage of oil fuel, lubrication oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.2.3);
 - (CI) 2.1.4.50 confirming that the electrical installations, including the main source of power and lighting systems, are installed in accordance with the approved plans (SOLAS 74/88 regs.II-1/40 and 41);
 - (CI) 2.1.4.51 confirming that a self-contained emergency source of electrical power has been provided and that the appropriate systems are satisfactorily supplied (SOLAS 74/88 reg.II-1/43);
 - (CI) 2.1.4.52 confirming that the starting arrangements of each emergency generating set are satisfactory (SOLAS 74/88 reg.II-1/44);
 - (CI) 2.1.4.53 confirming that precautions have been provided against shock, fire and other hazards of electrical origin (SOLAS 74/88 reg.II-1/45);
 - (CI) 2.1.4.54 confirming that the arrangements for periodically unattended machinery spaces are satisfactory (SOLAS 74/88 regs.II-1/46 to 53) and in particular:
 - (CI) 2.1.4.54.1 checking the fire precautions and testing alarms, as appropriate;
 - (CI) 2.1.4.54.2 checking the means for the protection against flooding;
 - (CI) 2.1.4.54.3 checking the means to control the propulsion from the navigating bridge;
 - (CI) 2.1.4.54.4 ensuring that a means of vocal communication between the main machinery control room or its control position, as appropriate, and the navigating bridge and engineer officer's accommodation is provided and is effective;
 - (CI) 2.1.4.54.5 checking that an alarm system is provided with random testing of functions;
 - (CI) 2.1.4.54.6 checking that means are provided to automatically shut down machinery or boiler operations in the event of serious malfunction, and testing the alarms;
 - (CI) 2.1.4.54.7 ensuring that special requirements for the machinery, boiler and electrical installations, as appropriate, are provided;
 - (CI) 2.1.4.55 examining, where applicable, the alternative design and arrangements for machinery or electrical installations or low-flashpoint fuel storage and distribution systems, or fire safety, in accordance with the test and inspection requirements, if any, specified in the approved documentation (SOLAS 74/00/06/15 regs.II-1/55 and II-2/17 and IGF Code ch.2);
 - (CI) 2.1.4.56 confirming that all aspects of the structural fire protection, including the ventilation systems, in accommodation and service spaces, control stations and machinery spaces are installed in accordance with the approved plans, testing the operation of fire dampers of ventilation ducts and the means of closing the main inlets and outlets of all ventilation systems and proving that the power ventilation is capable of being

- stopped from outside the space served (SOLAS 74/00/12/14 regs.II-2/4.4, 5.2, 5.3.1, 5.3.2, 6.2, 6.3, 7.5.5, 7.7, 8.2, 8.4, 9.2.1, 9.3, 9.4.2, 9.5, 9.7.1, 9.7.2, 9.7.3, 9.7.5.2, 9.7.6, 11.2, 11.3, 11.4 and 11.5) (SOLAS 74/88 regs.II-2/42 to 44, 46 to 50 and 52);
- (CI) 2.1.4.57 confirming that all aspects of the structural fire protection, including the ventilation systems, in cargo spaces are installed in accordance with the approved plans, testing the operation of fire dampers of ventilation ducts and the means of closing the main inlets and outlets of all ventilation systems and proving that the power ventilation is capable of being stopped from outside the space served (SOLAS 74/00/15 regs.II-2/5.2.1, 9.7.1, 9.7.2, 9.7.3, 9.7.6, 11.2, 11.3, 11.5, 19.3.8, 19.3.10, 20.2.1, 20.3, 20-1.2.1, 20-1.3 and 20-1.4) (SOLAS 74/88 regs.II-2/42 to 44, 46 to 50 and 52 to 54);
- (CI) 2.1.4.58 confirming that stairways and ladders are so arranged as to provide a means of escape from all accommodation spaces and from spaces in which the crew is normally employed, other than machinery spaces, to the open deck and thence to the lifeboats and liferafts (SOLAS 74/00 regs.II-2/13.2, 13.3.1, 13.3.3 and 13.6; FSS Code ch.13 paragraph 3) (SOLAS 74/88 reg.II-2/45) and in particular that:
- (CI) 2.1.4.58.1 at all levels of accommodation there are provided at least two widely separated means of escape from each restricted space or group of spaces;
- (CI) 2.1.4.58.2 below the lowest open deck the main means of escape is a stairway (the second being a trunk or a stairway);
- (CI) 2.1.4.58.3 above the lowest open deck the means of escape are stairways or doors to an open deck or a combination of them;
- (CI) 2.1.4.58.4 the radiotelegraph station has direct access to the open deck or is provided with two means of access or egress, one of which is a porthole or window of sufficient size;
- (CI) 2.1.4.59 confirming that two widely separated means of escape and, when appropriate, a fire shelter from the lower part of the space, are provided from each machinery space of Category A and that suitable escape routes are provided from other machinery spaces, and that two means of escape are provided for machinery control rooms and for main workshops located within the machinery space of Category A, as applicable (SOLAS 74/00/14 reg.II-2/13.4.2; FSS Code ch.13 paragraph 3) (SOLAS 74/88 reg.II-2/45);
- (CI) 2.1.4.60 examining the arrangements for gaseous fuel for domestic purposes (SOLAS 74/00 reg.II-2/4.3);
- (CI) 2.1.4.61 confirming, when appropriate, that all aspects of the helicopter facilities are installed in accordance with the approved plans (SOLAS 74/00 reg.II-2/18) (SOLAS 74/88 reg.II-2/18.8);

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- (CI) 2.1.4.62 confirming that installed materials do not contain asbestos* (SOLAS 74/00/09 reg.II-1/3-5);
- (CI) 2.1.4.63 confirming, for bulk carriers, that dedicated seawater ballast tanks have an efficient corrosion protection system such as hard coating (SOLAS 74/00 reg.II-1/3-2);
- (CI) 2.1.4.64 confirming that dedicated seawater ballast tanks arranged in ships and double side skin spaces arranged in bulk carriers of 150 m in length and upward when appropriate have been coated in accordance with resolution MSC.215(82), as amended (SOLAS 74/00/06 reg.II-1/3-2);
- (CI) 2.1.4.65 prior to the review of the coating technical file:
- (CI) 2.1.4.65.1 checking that the Technical Data Sheet and Statement of Compliance or Type Approval Certificate comply with the Standard;
- (CI) 2.1.4.65.2 checking that the coating identification on representative containers is consistent with the coating identified in the Technical Data Sheet;
- (CI) 2.1.4.65.3 checking that the inspector is qualified in accordance with the qualification standards;
- (CI) 2.1.4.65.4 checking that the inspector's reports of surface preparation and the coating's application indicate compliance with the manufacturer's Technical Data Sheet and Statement of Compliance or Type Approval Certificate; and
- (CI) 2.1.4.65.5 monitoring the implementation of the coating inspection requirements;
- (CI) 2.1.4.66 reviewing the coating technical file (SOLAS 74/00/06/10 regs.II-1/3-2 and II-1/3-11; MSC.215(82), as amended, and MSC.288(87), as amended);
- (CI) 2.1.4.67 confirming for oil tankers and bulk carriers, when appropriate, the provision of means of access to cargo and other spaces in accordance with the arrangements in the Ship Structures Access Manual (SOLAS 74/00/02/04 reg.II-1/3-6, SOLAS 74/10 reg.II-1/3-10 and MSC.287(87));
- (CI) 2.1.4.68 for bulk carriers, examining and testing the hold, ballast and dry space water level detectors and their audible and visual alarms (SOLAS 74/02 reg.XII/12);
- (CI) 2.1.4.69 for bulk carriers, checking the arrangements for availability of draining and pumping systems forward of the collision bulkhead (SOLAS 74/02 reg.XII/13);
- (CI) 2.1.4.70 confirming, for bulk carriers, that the loading instrument is on board and functioning (SOLAS 74/97/04 reg.XII/11);

* Refer to the *Unified interpretation of SOLAS regulation II-1/3-5* (MSC.1/Circ.1379 and MSC.1/Circ.1426/Rev.1).

- (CI) 2.1.4.71 confirming that the ship's identification number is permanently marked (SOLAS 74/02 reg.XI-1/3);
- (CI) 2.1.4.72 confirming that the towing and mooring equipment is properly marked with any restriction associated with its safe operation (SOLAS 74/04 reg.II-1/3-8); and
- (CI) 2.1.4.73 confirming, where applicable, that an appropriate portable atmosphere testing instrument or instruments* is on board, and that suitable means are provided for the calibration of all such instruments;† and checking the appropriateness of the testing and calibration (SOLAS 74/14 reg.XI-1/7).
- (CI) 2.1.5 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for oil tankers the survey during construction and after installation should consist of:
- (CI) 2.1.5.1 confirming, when appropriate, that the main steering gear comprises the necessary two or more identical power units and the requisite arrangements to regain steering capability in the event of the prescribed single failure (SOLAS 74/88/14 reg.II-1/29);
- (CI) 2.1.5.2 confirming in accordance with the survey plan that oil tankers of 150 m in length and above, where appropriate, meet the applicable structural requirements of an organization recognized by the Administration, or national standards of the Administration, conforming to the functional requirements of the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers (SOLAS 74/10 reg.II-1/3-10);
- (CI) 2.1.5.3 confirming that a hull return system of distribution and earthed distribution system are not used (SOLAS 74/88 reg.II-1/45);
- (CI) 2.1.5.4 confirming that all aspects of the location of spaces and the structural fire protection, including the special arrangements when the ship is a combination carrier, are in accordance with the approved plans (SOLAS 74/00/12 regs.II-2/1.6, 4.5.1, 4.5.2, 4.5.9, 9.2.4, 9.3 and 9.6.3) (SOLAS 74/88 regs.II-2/55 to 58);
- (CI) 2.1.5.5 confirming that permanent approved gastight lighting enclosures for illuminating cargo pump-rooms, having adequate strength and not impairing the integrity and gas tightness of the bulkheads or decks, are fitted in bulkheads and decks separating cargo pump-rooms and other spaces (SOLAS 74/00 reg.II-2/4.5.2.5) (SOLAS 74/88 reg.II-2/58.5);
- (CI) 2.1.5.6 confirming that all aspects of the cargo tank venting, cargo tank purging and gas freeing and other ventilation arrangements and protection of the cargo tank structure against pressure or vacuum are in accordance with the approved plans (SOLAS 74/00/15 regs.II-2/4.5.3, 4.5.4, 4.5.6, 4.5.8 and 11.6) (SOLAS 74/88 regs.II-2/59 and 62.13.1 to 62.13.3);

* Refer to the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces* as required by SOLAS regulation XI-1/7 (MSC.1/Circ.1477).

† Refer to the *Unified interpretations of SOLAS regulation XIV/2.2 and paragraphs 1.3.2 and 1.3.6, part I-A of the Polar Code* (MSC.1/Circ.1562).

- (CI) 2.1.5.7 confirming that access to bow is arranged in accordance with approved plans (SOLAS 74/00/04 reg.II-1/3-3);
- (CI) 2.1.5.8 confirming, for tankers of not less than 20,000 tonnes deadweight, that emergency towing is arranged in accordance with approved plans (SOLAS 74/00/04 reg.II-1/3-4);
- (CI) 2.1.5.9 confirming, when appropriate, that dedicated seawater ballast tanks have an efficient corrosion protection system such as hard coating (SOLAS 74/00/06 reg.II-1/3-2);
- (CI) 2.1.5.10 confirming that all cargo oil tanks in crude oil tankers have either:
 - (CI) 2.1.5.10.1 been coated in accordance with MSC.288(87), as amended; or
 - (CI) 2.1.5.10.2 been protected by alternative means of corrosion protection or utilization of approved corrosion-resistant material (steel) in accordance with MSC.289(87) (SOLAS 74/10 reg.II-1/3-11).
- (CI) 2.1.6 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for chemical tankers and gas carriers, the survey during construction and after installation should consist of:
 - (CI) 2.1.6.1 the provisions of (CI) 2.1.5 except (CI) 2.1.5.2.
- (CI) 2.1.7 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for the ships using natural gas as fuel other than ships covered by the IGC Code, the survey during construction and after installation should consist of:
 - (CI) 2.1.7.1 confirming that the arrangement of the accommodation, the fuel containment system, service and machinery spaces are in accordance with the approved plans and that control, monitoring and safety systems are satisfactory (IGF Code chs.4, 5, 6, 8, 9 and 15);
 - (CI) 2.1.7.2 confirming the inert gas system is satisfactory (IGF Code ch.6);
 - (CI) 2.1.7.3 confirming that the fuel containment systems are arranged and installed in accordance with the approved plans, internally examining the fuel containment systems and ensuring that the appropriate testing is carried out (IGF Code chs.6 and 16);
 - (CI) 2.1.7.4 examining of machinery installations (IGF Code ch.10);
 - (CI) 2.1.7.4.1 ventilation systems;
 - (CI) 2.1.7.4.2 dual-fuel engines;
 - (CI) 2.1.7.4.3 gas-only engines;
 - (CI) 2.1.7.4.4 multi-fuel engines;
 - (CI) 2.1.7.4.5 main and auxiliary boilers;

- (CI) 2.1.7.4.6 gas turbines;
- (CI) 2.1.7.5 confirming that the fire protection is installed in accordance with the approved plans (IGF Code ch.11.3);
- (CI) 2.1.7.6 confirming the ventilation arrangements are satisfactory (IGF Code chs.12 and 13); and
- (CI) 2.1.7.7 examining the electrical installations with particular reference to the certified safe type equipment fitted in gas-dangerous spaces and zones (IGF Code chs.12 and 14).
- (CI) 2.1.8 For the hull, machinery and equipment of cargo ships the check that the required documentation has been placed on board should consist of:
 - (CI) 2.1.8.1 confirming that the stability information and the damage control plans and damage control booklets have been provided (SOLAS 74/88 regs.II-1/22 and 23-1) (SOLAS 74/06 regs.II-1/5-1 and 19);
 - (CI) 2.1.8.2 checking, where applicable, that the noise survey report as required by the Code on Noise Levels on Board Ships is available on board (SOLAS 74/12 reg.II-1/3-12);
 - (CI) 2.1.8.3 confirming that the manoeuvring booklet has been provided and that the manoeuvring information has been displayed on the navigating bridge (SOLAS 74/88 reg.II-1/28);
 - (CI) 2.1.8.4 confirming that the approved Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units is provided on board (SOLAS 74/98/02 reg.VI/5.6);
 - (CI) 2.1.8.5 confirming, for oil tankers and bulk carriers when appropriate, that the Ship Structure Access Manual is on board (SOLAS 74/00/02/04 reg.II-1/3-6(4));
 - (CI) 2.1.8.6 confirming that a set of as-built construction drawings is available on board (SOLAS 74/04 reg.II-1/3-7);
 - (CI) 2.1.8.7 confirming when appropriate that a coating technical file reviewed by the Administration has been provided on board (SOLAS 74/00/06/10 regs.II-1/3-2 and 3-11);
 - (CI) 2.1.8.8 checking the provision of a ship-specific emergency towing procedure (SOLAS 74/08 reg.II-1/3-4);
 - (CI) 2.1.8.9 confirming, for oil tankers and bulk carriers of 150 m in length and above, that the Ship Construction File has been provided (SOLAS 74/10 reg.II-1/3-10 and MSC.290(87));
 - (CI) 2.1.8.10 confirming, when appropriate, that a technical file verified by the Administration has been provided on board (SOLAS 74/10 reg.II-1/3 11 and MSC.289(87)); and

- (CI) 2.1.8.11 confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board (SOLAS 74/00/06/15 regs.II-1/55 and II-2/17 and IGF Code ch.2).
- (CI) 2.1.9 For the hull, machinery and equipment of cargo ships the completion of the initial survey should consist of:
- (CI) 2.1.9.1 after a satisfactory survey, the Cargo Ship Safety Construction Certificate should be issued.
- (CA) **2.2 Annual surveys** – see part "General", section 4.2.
- (CA) 2.2.1 For the hull, machinery and equipment of cargo ships the examination of current certificates and other records should consist of:
- (CA) 2.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (CA) 2.2.1.2 checking, as appropriate, the validity of the Polar Ship Certificate;
- (CA) 2.2.1.3 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (CA) 2.2.1.4 checking the validity of the International Ship Security Certificate;
- (CA) 2.2.1.5 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (CA) 2.2.1.6 checking the validity of the International Oil Pollution Prevention Certificate;
- (CA) 2.2.1.7 checking the certificates of class, if the ship is classed with a classification society;
- (CA) 2.2.1.8 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (CA) 2.2.1.9 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (CA) 2.2.1.10 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (CA) 2.2.1.11 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (CA) 2.2.1.12 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (CA) 2.2.1.13 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);

- (CA) 2.2.1.14 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (CA) 2.2.1.15 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (CA) 2.2.1.16 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (CA) 2.2.1.17 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (CA) 2.2.1.18 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (CA) 2.2.1.19 checking, where applicable, that the noise survey report as required by the Code on Noise Levels on Board Ships is available on board (SOLAS 74/12 reg.II-1/3-12);
- (CA) 2.2.1.20 confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board (SOLAS 74/00/06/15 regs.II-1/55 and II-2/17);
- (CA) 2.2.1.21 checking whether any new equipment has been fitted and, if so, confirm that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (CA) 2.2.1.22 checking the provision of a ship-specific emergency towing procedure (SOLAS 74/08 reg.II-1/3-4);
- (CA) 2.2.1.23 confirming that the stability information, including damage stability, where applicable, and the damage control plans and damage control booklets are on board (SOLAS 74/88 regs.II-1/22, 23 and 25) (SOLAS 74/06 regs.II-1/5-1 and 19);
- (CA) 2.2.1.24 confirming that the manoeuvring booklet is on board and that the manoeuvring information is displayed on the navigating bridge (SOLAS 74/88 reg.II-1/28);
- (CA) 2.2.1.25 checking by the logbook entries that the testing and the emergency drills of the steering gear have been carried out (SOLAS 74/00 reg.V/26) (SOLAS 74/88 reg.V/19);
- (CA) 2.2.1.26 checking that the routine surveys of the boilers and other pressure vessels, as determined by the Administration, have been carried out as required and that safety devices, such as the boiler safety valves, have been tested;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

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- (CA) 2.2.1.27 checking that, as appropriate, the hull and machinery has been presented for survey in accordance with the continuous survey scheme approved by the Administration or a classification society;
- (CA) 2.2.1.28 confirming, when appropriate, that a complete file of the enhanced survey reports and the Condition Evaluation Report are on board;*
- (CA) 2.2.1.29 confirming that suitable Material Safety Data Sheets are available on board;
- (CA) 2.2.1.30 confirming, for bulk carriers, that the loading/unloading booklet required in SOLAS regulation VI/7.2 is on board (SOLAS 74/97/04 reg.XII/8.1);
- (CA) 2.2.1.31 confirming, that bulk carriers of 150 m in length and upwards of single side skin construction designed to carry solid bulk cargoes having a density of 1,780 kg/m³ and above, constructed before 1 July 1999, have, after the implementation date given in SOLAS 74/94/97 reg.XII/3, sufficient stability and strength to withstand flooding of the foremost cargo hold (SOLAS 74/97/04 regs.XII/3, 4 and 6);
- (CA) 2.2.1.32 confirming that approved Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units is on board (SOLAS 74/98/02 reg.VI/5.6);
- (CA) 2.2.1.33 confirming that the loading booklet for carriage of cargoes in bulk is on board (SOLAS 74/00 reg.VI/7);
- (CA) 2.2.1.34 confirming, for oil tankers and bulk carriers when appropriate, that the Ship Structure Access Manual is on board (SOLAS 74/00/02, reg.II-1/3-6(4));
- (CA) 2.2.1.35 confirming that structural alterations performed, if any, have been approved by the classification society and reported on the as-built drawings kept on board (SOLAS 74/04 reg.II-1/3-7);
- (CA) 2.2.1.36 confirming, when appropriate, that the coating technical file is available on board and maintained (SOLAS 74/00/06/10 regs.II-1/3-2 and 3-11);
- (CA) 2.2.1.37 confirming, when appropriate, that the maintenance of the protective coating is included in the overall ship's maintenance system (SOLAS 74/00/06 reg.II-1/3-2);
- (CA) 2.2.1.38 confirming, where appropriate, for crude oil tankers, that a technical file verified by the Administration has been provided on board (SOLAS 74/10 reg.II-1/3-11 and MSC.289(87));
- (CA) 2.2.1.39 confirming, for oil tankers and bulk carriers of 150 m in length and above, that the Ship Construction File is available and updated, where applicable[†] (SOLAS 74/10 reg.II-1/3-10 and MSC.287(87)); and

* Refer to the *International Code on the Guidelines on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

† Refer also to the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

- (CA) 2.2.1.40 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (CA) 2.2.2 For the hull,* machinery and equipment of cargo ships the annual survey should consist of:
 - (CA) 2.2.2.1 examining, in general and as far as can be seen, the hull and its closing appliances;
 - (CA) 2.2.2.2 examining the anchoring and mooring equipment as far as can be seen; for ships built after 1 January 2007, confirming that the towing and mooring equipment is properly marked with any restriction associated with its safe operation (SOLAS 74/04 reg.II-1/3-8);
 - (CA) 2.2.2.3 examining, for bulk carriers of 150 m and above, where appropriate, the ship's structure in accordance with the Ship Construction File, taking into account identified areas that need special attention (SOLAS 74/10 reg.II-1/3-10 and MSC.287(87));
 - (CA) 2.2.2.4 examining the collision and the other watertight bulkheads as far as can be seen (SOLAS 74/88 regs.II-1/11 and 14) (SOLAS 74/06 regs.II-1/10, 11 and 12);
 - (CA) 2.2.2.5 examining and testing (locally and remotely) all the watertight doors in watertight bulkheads (SOLAS 74/88 reg.II-1/18) (SOLAS 74/06 reg.II-1/16);
 - (CA) 2.2.2.6 examining the arrangements for closing openings in the shell plating below the freeboard deck (SOLAS 74/06 reg.II-1/15);
 - (CA) 2.2.2.7 examining each bilge pump and confirming that the bilge pumping system for each watertight compartment is satisfactory (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
 - (CA) 2.2.2.8 confirming that the drainage from enclosed cargo spaces situated on the freeboard deck is satisfactory (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
 - (CA) 2.2.2.8.1 examining visually the drainage facilities for blockage or other damage and confirming the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5);

* Refer also to annex A to the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

- (CA) 2.2.2.9 confirming that the machinery, boilers and other pressure vessels, associated piping systems and fittings are installed and protected so as to reduce to a minimum any danger to persons on board, due regard being given to moving parts, hot surfaces and other hazards (SOLAS 74/00/15 reg.II-2/4.2 (except 4.2.2.3.4 relating to remote closing of valves included in safety equipment)) (SOLAS 74/88 regs.II-1/26, 32, 33 and 34) (SOLAS 74/88/06 reg.II-2/15 (except 15.2.5));
- (CA) 2.2.2.10 confirming that the normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative (SOLAS 74/88 reg.II-1/26);
- (CA) 2.2.2.11 confirming that means are provided so that the machinery can be brought into operation from the dead ship condition without external aid (SOLAS 74/88 reg.II-1/26);
- (CA) 2.2.2.12 carrying out a general examination of the machinery, the boilers, all steam, hydraulic, pneumatic and other systems and their associated fittings to see whether they are being properly maintained and with particular attention to the fire and explosion hazards (SOLAS 74/88 regs.II-1/26 and 27);
- (CA) 2.2.2.13 examining and testing the operation of main and auxiliary steering arrangements, including their associated equipment and control systems (SOLAS 74/88/14 reg.II-1/29);
- (CA) 2.2.2.14 confirming that the means of communication between the navigation bridge and steering gear compartment and the means of indicating the angular position of the rudder are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29) (SOLAS 74/00 reg.V/19);
- (CA) 2.2.2.15 confirming that with ships having emergency steering positions there are means of relaying heading information and, when appropriate, of supplying visual compass readings to the emergency steering position (SOLAS 74/88/14 reg.II-1/29 and SOLAS 74/00 reg.V/19 or the SOLAS 74/88 reg.V/12 in force prior to 1 July 2002 as appropriate);
- (CA) 2.2.2.16 confirming that the various alarms required for hydraulic power-operated, electric and electro-hydraulic steering gears are operating satisfactorily and that the re-charging arrangements for hydraulic power-operated steering gears are being maintained (SOLAS 74/88/14 reg.II-1/29 and SOLAS 74/88 reg.II-1/30);
- (CA) 2.2.2.17 examining the means for the operation of the main and auxiliary machinery essential for the propulsion and the safety of the ship, including, when applicable, the means of remotely controlling the propulsion machinery from the navigating bridge (including the control, monitoring, reporting, alert and safety actions) and the arrangements to operate the main and other machinery from a machinery control room (SOLAS 74/88/00/02 reg.II-1/31);
- (CA) 2.2.2.18 confirming the operation of the ventilation for the machinery spaces (SOLAS 74/88 reg.II-1/35);

- (CA) 2.2.2.19 when appropriate, confirming that the measures to prevent noise in machinery spaces are effective (SOLAS 74/88 reg.II-1/36 and SOLAS 74/12 reg.II-1/3-12.2); or confirming that the ship was constructed to reduce onboard noise and to protect personnel from noise in accordance with the Code on Noise Levels on Board Ships, adopted by resolution MSC.337(91), as amended (SOLAS 74/12 reg.II-1/3-12);
- (CA) 2.2.2.20 confirming that the engine-room telegraph, the second means of communication between the navigation bridge and the machinery space and the means of communication with any other positions from which the engines are controlled are operating satisfactorily (SOLAS 74/88 reg.II-1/37);
- (CA) 2.2.2.21 confirming that the engineer's alarm is clearly audible in the engineers' accommodation (SOLAS 74/88 reg.II-1/38);
- (CA) 2.2.2.22 examining, as far as practicable, visually and in operation, the electrical installations, including the main source of power and the lighting systems (SOLAS 74/88 regs.II-1/40 and 41);
- (CA) 2.2.2.23 confirming, as far as practicable, the operation of the emergency source(s) of electrical power including their starting arrangements, the systems supplied and, when appropriate, their automatic operation (SOLAS 74/88 regs.II-1/43 and 44);
- (CA) 2.2.2.24 examining, in general, that the precautions provided against shock, fire and other hazards of electrical origin are being maintained (SOLAS 74/88 reg.II-1/45);
- (CA) 2.2.2.25 examining the arrangements for periodically unattended machinery spaces (SOLAS 74/88 regs.II-1/46 to 53) and, in particular, the random testing of alarm, automatic and shutdown functions;
- (CA) 2.2.2.26 examining, where applicable, the alternative design and arrangements for machinery or electrical installations, low-flashpoint fuel storage and distribution systems, or fire safety, in accordance with the test, inspection and maintenance requirements, if any, specified in the approved documentation (SOLAS 74/00/06/15 regs.II-1/55 and II-2/17 and IGF Code ch.2);
- (CA) 2.2.2.27 confirming, as far as practicable, that no changes have been made in the structural fire protection, examining any manual and automatic fire doors and proving their operation, testing the fire dampers of ventilation ducts and the means of closing the main inlets and outlets of all ventilation systems and testing the means of stopping power ventilation systems from outside the space served (SOLAS 74/00/12/15 regs.II-2/4.4, 5.2, 5.3.1, 5.3.2, 6.2, 6.3, 7.5.5, 7.7, 8.2, 8.3, 8.4, 9.2.1, 9.2.3, 9.3, 9.4.2, 9.5, 9.7.1, 9.7.2, 9.7.3, 9.7.5.2, 9.7.6, 11.2, 11.3, 11.4, 11.5, 19.3.8, 19.3.10, 20.2.1, 20.3, 20-1.2.1, 20-1.3 and 20-1.4) (SOLAS 74/88 regs.II-2/42 to 44, 46 to 50 and 52);
- (CA) 2.2.2.28 confirming that the means of escape from accommodation, machinery and other spaces are satisfactory (SOLAS 74/00/14 regs.II-2/13.2, 13.3.1, 13.3.3, 13.4.2 and 13.6) (SOLAS 74/88 reg.II-2/45);

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- (CA) 2.2.2.29 examining the arrangements for gaseous fuel for domestic purposes (SOLAS 74/00 reg.II-2/4.3) (SOLAS 74/88 reg.II-2/51);
- (CA) 2.2.2.30 examining visually the condition of any expansion joints in seawater systems;
- (CA) 2.2.2.31 confirming, when appropriate and as far as is practicable when examining internal spaces on oil tankers and bulk carriers, that the means of access to cargo and other spaces remain in good condition (SOLAS 74/00/02 reg.II-1/3-6);
- (CA) 2.2.2.32 confirming that no new materials containing asbestos were installed on board* (SOLAS 74/00/04/09 reg.II-1/3-5);
- (CA) 2.2.2.33 examining the functionality of bilge well alarms to all cargo holds and conveyor tunnels (SOLAS 74/97/04 reg.XII/9);
- (CA) 2.2.2.34 for bulk carriers, examining the hold, ballast and dry space water level detectors and their audible and visual alarms (SOLAS 74/02 reg.XII/12);
- (CA) 2.2.2.35 for bulk carriers, checking the arrangements for availability of draining and pumping systems forward of the collision bulkhead (SOLAS 74/02 reg.XII/13);
- (CA) 2.2.2.36 confirming that the ship's identification number is permanently marked (SOLAS 74/02 reg.XI-1/3);
- (CA) 2.2.2.37 confirming, where applicable, that an appropriate portable atmosphere testing instrument or instruments† is on board, and that suitable means are provided for the calibration of all such instruments;‡ and checking the appropriateness of the testing and calibration (SOLAS 74/14 reg.XI-1/7);
- (CA) 2.2.2.38 for single hull, single hold cargo ships, examining the cargo hold water level detector and its audible and visual alarm (SOLAS 74/04 reg.II-1/23-3) (SOLAS 74/06 reg.II-1/25);
- (CA) 2.2.2.39 confirming that the coating system in dedicated SWB tanks in ships and double side skin spaces arranged in bulk carriers of 150 m in length and upward when appropriate is maintained and that maintenance, repair and partial recoating are recorded in the coating technical file (SOLAS 74/00/06 reg.II-1/3-2);
- (CA) 2.2.2.40 confirming, for bulk carriers constructed before 1 July 1999 with restrictions imposed with respect to the carriage of cargoes with a density of 1,780 kg/m³ and above, that a triangle is permanently marked at midship (SOLAS 74/97/04 reg.XII/8.3); and

* Refer to the *Unified interpretation of SOLAS regulation II-1/3-5* (MSC.1/Circ.1379 and MSC.1/Circ.1426/Rev.1).

† Refer to the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7* (MSC.1/Circ.1477).

‡ Refer to the *Unified interpretations of SOLAS regulation XIV/2.2 and paragraphs 1.3.2 and 1.3.6, part I-A of the Polar Code* (MSC.1/Circ.1562).

- (CA) 2.2.2.41 confirming, for bulk carriers, that the loading instrument is on board and functioning (SOLAS 74/97/04 reg.XII/11).
- (CA) 2.2.3 For the hull,* machinery and equipment of cargo ships, concerning the additional requirements for oil tankers, the annual survey should consist of:
 - (CA) 2.2.3.1 confirming, when appropriate, that the requisite arrangements to regain steering capability in the event of the prescribed single failure are being maintained (SOLAS 74/88/14 reg.II-1/29);
 - (CA) 2.2.3.2 examining the cargo tank openings, including gaskets, covers, coamings and screens;
 - (CA) 2.2.3.3 examining the cargo tank pressure/vacuum valves and devices to prevent the passage of flame (SOLAS 74/00/15 reg.II-2/11.6);
 - (CA) 2.2.3.4 examining the devices to prevent the passage of flame on vents to all bunker, oily-ballast and oily-slop tanks and void spaces, as far as practicable;
 - (CA) 2.2.3.5 examining the cargo tank venting, cargo tank purging and gas freeing and other ventilation systems (SOLAS 74/00/15 regs.II-2/4.5.3, 4.5.4, 4.5.6 and 4.5.8) (SOLAS 74/88 reg.II-2/59);
 - (CA) 2.2.3.6 examining the cargo, crude oil washing, ballast and stripping systems both on deck and in the cargo pump-rooms and the bunker system on deck;
 - (CA) 2.2.3.7 confirming that all electrical equipment in dangerous zones is suitable for such locations, is in good condition and is being properly maintained;
 - (CA) 2.2.3.8 confirming that potential sources of ignition in or near the cargo pump-room are eliminated, such as loose gear, combustible materials, etc., that there are no signs of undue leakage and that access ladders are in good condition;
 - (CA) 2.2.3.9 examining all pump-room bulkheads for signs of oil leakage or fractures and, in particular, the sealing arrangements of all penetrations of cargo pump-room bulkheads;
 - (CA) 2.2.3.10 examining, as far as practicable, the cargo, bilge, ballast and stripping pumps for undue gland seal leakage, verification of proper operation of electrical and mechanical remote operating and shutdown devices and operation of cargo pump-room bilge system, and checking that pump foundations are intact;
 - (CA) 2.2.3.11 confirming that the pump-room ventilation system is operational, ducting intact, dampers operational and screens clean;
 - (CA) 2.2.3.12 verifying that installed pressure gauges on cargo discharge lines and level indicator systems are operational;

* Refer also to annex B of the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

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- (CA) 2.2.3.13 examining access to bow arrangement (SOLAS 74/00/04 reg.II-1/3-3);
- (CA) 2.2.3.14 examining the towing arrangement for tankers of not less than 20,000 tonnes deadweight (SOLAS 74/00/04 reg.II-1/3-4);
- (CA) 2.2.3.15 confirming that the corrosion prevention system fitted to dedicated ballast water tanks of oil tankers and bulk carriers when appropriate is maintained (SOLAS 74/00 reg.II-1/3-2);
- (CA) 2.2.3.16 confirming that the coating system in cargo oil tanks of crude oil tankers, when appropriate, is maintained and that in-service maintenance and repair activities are recorded in the coating technical file (SOLAS 74/10 reg.II-1/3-11 and MSC.288(87), as amended);
- (CA) 2.2.3.17 examining the emergency lighting in all cargo pump-rooms of tankers constructed after 1 July 2002 (SOLAS 74/00 reg.II-1/43); and
- (CA) 2.2.3.18 examining, for oil tankers of 150 m in length and above, where appropriate, the ship's structure in accordance with the Ship Construction File, taking into account identified areas that need special attention, and verifying that the Ship Construction File is updated, where applicable* (SOLAS reg.II-1/3-10 and MSC.287(87)).
- (CA) 2.2.4 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for chemical tankers and gas carriers, the annual survey should consist of:
- (CA) 2.2.4.1 the provisions of (CA) 2.2.3 except (CA) 2.2.3.16 and (CA) 2.2.3.18.
- (CA) 2.2.5 For the hull, machinery and equipment of cargo ships concerning the additional requirements for using natural gas as fuel other than ships covered by the IGC Code, the annual survey should consist of:
- (CA) 2.2.5.1 examining the logbooks and operating records with regard to correct functioning of the gas detection systems, fuel supply/gas systems, etc. (IGF Code ch.16);
- (CA) 2.2.5.2 confirming the manufacturer/builder instructions and manuals covering the operations, safety and maintenance requirements and occupational health hazards relevant to fuel storage, fuel bunkering, and fuel supply and associated systems for the use of the fuel, are provided on board the vessel (IGF Code chs.6 and 18);
- (CA) 2.2.5.3 confirming gas detection and other leakage detection equipment in compartments containing fuel storage, fuel bunkering, and fuel supply equipment or components or associated systems, including indicators and alarms, are in satisfactory operating condition (IGF Code chs.6 and 15);
- (CA) 2.2.5.4 confirming the satisfactory operation of the control, monitoring and automatic shutdown systems of the fuel supply and bunkering systems (IGF Code ch.15);

* Refer to annex B of the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

- (CA) 2.2.5.5 confirming the availability of test and calibration records of the gas detection systems (IGF Code ch.15);
- (CA) 2.2.5.6 examining piping, hoses, emergency shutdown valves, remote operating valves, relief valves, means for inerting, machinery and equipment for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating, cooling or otherwise handling the fuel (IGF Code chs.5, 6, 8, 9, 10 and 15);
- (CA) 2.2.5.7 testing the shutdown of ESD protected machinery spaces operationally, as far as practicable (IGF Code ch.5);
- (CA) 2.2.5.8 confirming stopping of pumps and compressors upon emergency shutdown of the system (IGF Code chs.6, 10 and 15);
- (CA) 2.2.5.9 examining the ventilation system, including portable ventilating equipment where fitted, for spaces containing fuel storage, fuel bunkering, and fuel supply units or components or associated systems, including air locks, pump-rooms, compressor rooms, fuel preparation rooms, fuel valve rooms, control rooms and spaces containing gas burning equipment (IGF Code chs.12 and 13);
- (CA) 2.2.5.10 testing, as far as practicable, alarms, such as differential pressure and loss of pressure alarms (IGF Code ch.15);
- (CA) 2.2.5.11 examining portable and fixed drip trays and insulation (IGF Code ch.5);
- (CA) 2.2.5.12 examining electrical equipment including electrical bonding arrangements and bulkhead/deck penetrations including access openings in hazardous areas (IGF Code chs.5, 12 and 14);
- (CA) 2.2.5.13 examining the condition and arrangement of fuel storage, bunkering and supply systems including external examination of storage tank (including secondary barrier if fitted) and relief valves if accessible, verification of satisfactory operation of tank monitoring system, examination and testing of installed bilge alarms and means of drainage (IGF Code chs.6, 8 and 15);
- (CA) 2.2.5.14 testing of the remote and local closing of the installed main tank valve (IGF Code chs.6 and 10);
- (CA) 2.2.5.15 examining bunkering stations and the fuel bunkering system including operation of the fuel bunkering control, monitoring and shutdown systems (IGF Code ch.8);
- (CA) 2.2.5.16 examining the Ship-shore link (SSL) or equivalent means for automatic and manual ESD communication to the bunkering source (IGF Code para.8.5.7);
- (CA) 2.2.5.17 examining the fuel supply system including the fuel supply system control, monitoring and shutdown systems (IGF Code chs.9 and 15);
- (CA) 2.2.5.18 testing of the remote and local closing of the master fuel valve for each engine compartment (IGF Code chs.5, 9 and 15);

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- (CA) 2.2.5.19 checking the records about drills and emergency exercises (IGF Code ch.17); and
- (CA) 2.2.5.20 checking the pre-bunkering verification records according to the bunker safety checklist (IGF Code ch.18).
- (CA) 2.2.6 For the hull, machinery and equipment of cargo ships the completion of the annual survey should consist of:
- (CA) 2.2.6.1 after a satisfactory survey, the Cargo Ship Safety Construction Certificate should be endorsed; and
- (CA) 2.2.6.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (CIn) **2.3 Intermediate surveys** – see part "General", section 4.3
- (CIn) 2.3.1 For the hull, machinery and equipment of cargo ships the examination of current certificates and other records should consist of:
- (CIn) 2.3.1.1 the provisions of (CA) 2.2.1.
- (CIn) 2.3.2 For the hull,* machinery and equipment of cargo ships the intermediate survey should consist of:
- (CIn) 2.3.2.1 the provisions of (CA) 2.2.2;
- (CIn) 2.3.2.2 for ships over 5 years of age, an internal examination of representative spaces used for water ballast;
- (CIn) 2.3.2.3 for ships over 10 years of age, other than gas carriers and ships engaged in the carriage of dry cargoes only, an internal examination of selected cargo spaces; and
- (CIn) 2.3.2.4 for ships over 15 years of age, engaged in the carriage of dry cargoes only, an internal examination of selected cargo spaces.
- (CIn) 2.3.3 For the hull,† machinery and equipment of cargo ships for the additional requirements for oil tankers the intermediate survey should consist of:
- (CIn) 2.3.3.1 the provisions of (CA) 2.2.3;
- (CIn) 2.3.3.2 should there be any doubt as to its condition when examining the various piping systems, the piping may be required to be pressure tested, gauged or both; particular attention is to be paid to repairs such as welded doublers; and
- (CIn) 2.3.3.3 testing the insulation resistance of electrical circuits in dangerous zones such as cargo pump-rooms and areas adjacent to cargo tanks, but in cases where a proper record of testing is maintained, consideration should be given to accepting recent readings.

* Refer also to annex A to the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

† Refer also to annex B to the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

- (CIn) 2.3.4 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for chemical tankers and gas carriers, the intermediate survey should consist of:
- (CIn) 2.3.4.1 the provisions of (CA) 2.2.3 except (CA) 2.2.3.16 and (CA) 2.2.3.18.
- (CIn) 2.3.5 For the hull, machinery and equipment of cargo ships concerning the additional requirements for using natural gas as fuel other than ships covered by the IGC Code, the intermediate survey should consist of:
- (CIn) 2.3.5.1 the provisions of (CA) 2.2.5; and
- (CIn) 2.3.5.2 testing gas detectors, temperature sensors, pressure sensors, level indicators, and other arrangement of control, monitoring and safety of fuel supply systems including proper response of the fuel safety system upon fault conditions (IGF Code ch.15).
- (CIn) 2.3.6 For the hull, machinery and equipment of cargo ships the completion of the intermediate survey should consist of:
- (CIn) 2.3.6.1 after a satisfactory survey, the Cargo Ship Safety Construction Certificate should be endorsed; and
- (CIn) 2.3.6.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (CR) **2.4** **Renewal surveys** – see part "General", section 4.5
- (CR) 2.4.1 For the hull, machinery and equipment of cargo ships the examination of current certificates and other records should consist of:
- (CR) 2.4.1.1 the provisions of (CA) 2.2.1, except for the validity of the Cargo Ship Safety Construction Certificate.
- (CR) 2.4.2 For the hull,* machinery and equipment of cargo ships the renewal survey should consist of:
- (CR) 2.4.2.1 the provisions of (CIn) 2.3.2;
- (CR) 2.4.2.2 examination of sea valves and their connections to the hull; and
- (CR) 2.4.2.3 examination of anchoring and mooring equipment, for which purpose the anchors should be lowered and raised using the windlass.
- (CR) 2.4.3 For the hull,† machinery and equipment of cargo ships, concerning the additional requirements for oil tankers, the renewal survey should consist of:
- (CR) 2.4.3.1 the provisions of (CIn) 2.3.3.

* Refer also to annex A of the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

† Refer also to annex B of the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (resolution A.1049(27)), as amended.

- (CR) 2.4.4 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for chemical tankers and gas carriers, the renewal survey should consist of:
- (CR) 2.4.4.1 the provisions of (CA) 2.2.3 except (CA) 2.2.3.16 and (CA) 2.2.3.18.
- (CR) 2.4.5 For the hull, machinery and equipment of cargo ships, concerning the additional requirements for bulk carriers the renewal survey should consist of the provisions of (CI) 2.1.4.68 and 2.1.4.70.
- (CR) 2.4.6 For the hull, machinery and equipment of cargo ships concerning the additional requirements for ships using natural gas as fuel other than ships covered by the IGC Code, the renewal survey should consist of:
- (CR) 2.4.6.1 the provisions of (CIn) 2.3.5;
- (CR) 2.4.6.2 examining the storage tanks and all associated piping for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating, storing, burning or otherwise handling the fuel and liquid nitrogen installations, and requiring removal of insulation from the piping and opening for examination and hydrostatic test of suspected pipeline as necessary, and leak test of complete piping after reassembly (IGF Code chs.5, 6, 7, 8, 9 and 10);
- (CR) 2.4.6.3 examining emergency shutdown valves, check valves, block and bleed valves, master gas valves, remote operating valves, isolating valves for pressure relief valves in the fuel storage, fuel bunkering, and fuel supply piping systems, with randomly selected valves being opened for examination (IGF Code chs.5, 6, 7, 9, 15 and 16);
- (CR) 2.4.6.4 examining pressure relief valves connected to fuel storage tanks and connected pipes and venting system, with PRV being opened for examination, adjusted and function tested (IGF Code ch.6);
- (CR) 2.4.6.5 examining and testing pressure relief valves in fuel supply/bunker lines, including valves being opened for internal examination and testing; the number of valves being opened up for internal examination and being tested should include all PRVs that were not internally examined and tested in the past 5 years and a random selection of PRVs that were internally examined and tested in the past 5 years provided satisfactory records of overhaul and testing of these PRVs are available (IGF Code ch.6);
- (CR) 2.4.6.6 examining pressure/vacuum relief valves or devices for interbarrier spaces and hold spaces, with the valves being opened, examined, tested and readjusted as necessary (IGF Code ch.6);
- (CR) 2.4.6.7 examining fuel storage tanks internally in accordance with an approved survey plan (IGF Code ch.6);
- (CR) 2.4.6.8 examining and testing of spill protection and water spray systems, for portable liquefied gas fuel tanks located on open deck (IGF Code para.6.5.2);

- (CR) 2.4.6.9 examining and testing the thermal oxidation system if any (IGF Code para.6.9.4);
- (CR) 2.4.6.10 examining and NDE testing the low temperature steel shielding at the bunker station if any (IGF Code para.8.3.1.6);
- (CR) 2.4.6.11 examining fuel pumps, compressors, process pressure vessels, inert gas generators, heat exchangers and other components used in connection with fuel handling (IGF Code chs.5, 6, 8, 9, 10 and 15);
- (CR) 2.4.6.12 examining electrical equipment including the physical condition of electrical cables and supports, intrinsically safe, explosion proof, or increased safety features of electrical equipment, including functional tests of pressurized electrical equipment and associated alarms, testing of electrical equipment for de-energization which is not certified for use in hazardous areas and insulation resistance test of circuits passing through a hazardous zone (IGF Code chs.12 and 14); and
- (CR) 2.4.6.13 examining and testing gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to the fuel safety system, including verification of the response upon fault conditions, and the calibrations of pressure, temperature and level indicating equipment in accordance with the manufacturer's requirements (IGF Code ch.15).*
- (CR) 2.4.7 After a satisfactory survey, the Cargo Ship Safety Construction Certificate should be issued.
- (B) 3 GUIDELINES FOR THE INSPECTION OF THE OUTSIDE OF THE SHIP'S BOTTOM OF CARGO SHIPS**
- (CB) 3.1 For the inspection of the outside of the ship's bottom of cargo ships the inspection should consist of:
- (CB) 3.1.1 examining the ship's shell including bottom and bow plating, keel, bilge keels, stem, stern frame and rudder;
- (CB) 3.1.2 noting the clearances measured in the rudder bearings;
- (CB) 3.1.3 examining the propeller and shaft seals, as far as practicable;
- (CB) 3.1.4 noting the clearance measured in the propeller shafts, as far as practicable;
- (CB) 3.1.5 examining sea chests and strainers; and
- (CB) 3.1.6 the survey of related items inspected at the same time (see part "General" section 5.1).
- (CB) 3.2 For the inspection of the outside of the ship's bottom of cargo ships the completion of the inspection should consist of:

* Refer to the *Unified interpretations of the IGF Code* (MSC.1/Circ.1591).

- (CB) 3.2.1 after a satisfactory survey, the Cargo Ship Safety Construction Certificate should be endorsed; and
- (CB) 3.2.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General" section 4.8.
- (R) 4 **GUIDELINES FOR SURVEYS FOR THE CARGO SHIP SAFETY RADIO CERTIFICATE**
- (RI) 4.1 **Initial surveys** – see part "General" section 4.1
- (RI) 4.1.1 For the radio installations, including those used in life-saving appliances, of cargo ships the examination of plans and designs should consist of:
- (RI) 4.1.1.1 establishing the sea areas declared for operation, the equipment installed to fulfil the functional requirements for the sea areas of operation, the methods adopted to ensure the availability of the functional requirements and the arrangements for supply of an emergency source of energy (if any) (SOLAS 74/88 regs.II-1/43 and IV/1 to 15);
- (RI) 4.1.1.2 establishing which radio equipment is to be surveyed and, if duplication of equipment is used as a means of ensuring the availability of the functional requirements, establishing which is the "basic equipment" and which the "duplicated equipment" (SOLAS 74/88 reg.IV/15) (additional radiocommunications equipment provided other than for SOLAS compliance should be noted);
- (RI) 4.1.1.3 confirming all SOLAS equipment complies with appropriate performance standards not inferior to those adopted by IMO (SOLAS 74/88 reg.IV/14);
- (RI) 4.1.1.4 examining the plans for the provision and position of the radio installation, including sources of energy and antennas (SOLAS 74/88 regs.II-1/43, IV/6, IV/14 and V/19); and
- (RI) 4.1.1.5 examining the plans for the provision and positioning of the radio life-saving appliances (SOLAS 74/88 reg.III/6).
- (RI) 4.1.2 For the radio installations, including radio life-saving appliances, of cargo ships the survey during construction and after installation should consist of:
- (RI) 4.1.2.1 examining the position, physical and electromagnetic protection and illumination of each radio installation (SOLAS 74/88 reg.IV/6);
- (RI) 4.1.2.2 confirming the provision of equipment for the radio installation with due regard to the declared sea areas in which the ship will trade and the declared means of maintaining availability of functional requirements (SOLAS 74/88 regs.III/6, IV/7 to 11, 14 and 15);
- (RI) 4.1.2.3 confirming the ability to initiate the transmission of ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service, from the position from which the ship is normally navigated (SOLAS 74/88/06 regs.IV/4, 7 to 11);

- (RI) 4.1.2.4 examining all antennas, including:
 - (RI) 4.1.2.4.1 visually checking all antennas, including Inmarsat antennas, and feeders for satisfactory siting and absence of defects (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.4.2 checking insulation and safety of all antennas;
- (RI) 4.1.2.5 examining the reserve source of energy, including:
 - (RI) 4.1.2.5.1 checking there is sufficient capacity to operate the basic or duplicated equipment for 1 hour or 6 hours, as appropriate (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.5.2 if the reserve source of energy is a battery:
 - (RI) 4.1.2.5.2.1 checking its siting and installation (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.5.2.2 where appropriate, checking its condition by specific gravity measurement or voltage measurement;
 - (RI) 4.1.2.5.2.3 with the battery off charge, and the maximum required radio installation load connected to the reserve source of energy, checking the battery voltage and discharge current;
 - (RI) 4.1.2.5.2.4 checking that the charger or chargers are capable of recharging the reserve battery within 10 hours (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.5.2.5 checking that information on ship's position is provided continuously and automatically to all two-way communication equipment (SOLAS 74/88 reg.IV/18);
- (RI) 4.1.2.6 examining the VHF transceiver(s), including:
 - (RI) 4.1.2.6.1 checking for operation on channels 6, 13 and 16 (SOLAS 74/88 regs.IV/7 and 14);
 - (RI) 4.1.2.6.2 checking frequency tolerance, transmission line quality and radio frequency power output (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.6.3 checking for correct operation of all controls including priority of control units (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.6.4 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.6.5 checking the operation of the VHF control unit(s) or portable VHF equipment provided for navigational safety (SOLAS 74/88 reg.IV/6);
 - (RI) 4.1.2.6.6 checking for correct operation by on-air contact with a coast station or other ship;
- (RI) 4.1.2.7 examining the VHF DSC controller and channel 70 Digital Selective Calling (DSC) watch receiver, including:

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- (RI) 4.1.2.7.1 performing an off-air check confirming the correct Maritime Mobile Service Identity is programmed in the equipment (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.7.2 checking for correct transmission by means of a routine or test call to a coast station, other ship, onboard duplicate equipment or special test equipment;
 - (RI) 4.1.2.7.3 checking for correct reception by means of a routine or test call from a coast station, other ship, onboard duplicate equipment or special test equipment;
 - (RI) 4.1.2.7.4 checking the audibility of the VHF/DSC alarm;
 - (RI) 4.1.2.7.5 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.8 examining the MF/HF radiotelephone equipment, including:
 - (RI) 4.1.2.8.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.8.2 checking the antenna tuning in all appropriate bands;
 - (RI) 4.1.2.8.3 checking that the equipment is within frequency tolerance on all appropriate bands (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.8.4 checking for correct operation by contact with a coast station and/or measuring transmission line quality and radio frequency output;
 - (RI) 4.1.2.8.5 checking receiver performance by monitoring known stations on all appropriate bands;
 - (RI) 4.1.2.8.6 if control units are provided outside the navigating bridge, checking that the control unit on the bridge has first priority for the purpose of initiating distress alerts (SOLAS 74/88 regs.IV/9, 10, 11 and 14);
 - (RI) 4.1.2.9 examining the HF radiotelex equipment, including:
 - (RI) 4.1.2.9.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.9.2 confirming that the correct selective calling number is programmed in the equipment;
 - (RI) 4.1.2.9.3 checking correct operation by inspection of recent hard copy or by a test with a coast radio station (SOLAS 74/88 regs.IV/10 and 11);
 - (RI) 4.1.2.10 examining the MF/HF DSC controller(s), including:
 - (RI) 4.1.2.10.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (RI) 4.1.2.10.2 confirming that the correct Maritime Mobile Service Identity is programmed in the equipment;

- (RI) 4.1.2.10.3 checking the off-air self-test program;
- (RI) 4.1.2.10.4 checking operation by means of a test call on MF and/or HF to a coast radio station if the rules of the berth permit the use of MF/HF transmissions (SOLAS 74/88 regs.IV/9, 10 and 11);
- (RI) 4.1.2.10.5 checking the audibility of the MF/HF DSC alarm;
- (RI) 4.1.2.11 examining the MF/HF DSC watch receiver(s), including:
 - (RI) 4.1.2.11.1 confirming that only distress and safety DSC frequencies are being monitored (SOLAS 74/88 regs.IV/9 to 12);
 - (RI) 4.1.2.11.2 checking that a continuous watch is being maintained while keying MF/HF radio transmitters (SOLAS 74/88 reg.IV/12);
 - (RI) 4.1.2.11.3 checking for correct operation by means of a test call from a coast station or other ship;
- (RI) 4.1.2.12 examining the Inmarsat Ship Earth Station(s), including:
 - (RI) 4.1.2.12.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy, and that where an uninterrupted supply of information from the ship's navigational or other equipment is required ensuring such information remains available in the event of failure of the ship's main or emergency source of electrical power (SOLAS 74/88 regs.IV/13 and 14);
 - (RI) 4.1.2.12.2 checking the distress function by means of an approved test procedure where possible (SOLAS 74/88 regs.IV/10, 12 and 14);
 - (RI) 4.1.2.12.3 checking for correct operation by inspection of recent hard copy or by test call;
- (RI) 4.1.2.13 if appropriate, examining the NAVTEX equipment (SOLAS 74/88 regs.IV/7, 12 and 14), including:
 - (RI) 4.1.2.13.1 checking for correct operation by monitoring incoming messages or inspecting recent hard copy;
 - (RI) 4.1.2.13.2 running the self-test program if provided;
- (RI) 4.1.2.14 examining the Enhanced Group Call equipment (SOLAS 74/88 regs.IV/7 and 14), including:
 - (RI) 4.1.2.14.1 checking for correct operation and area by monitoring incoming messages or by inspecting recent hard copy;
 - (RI) 4.1.2.14.2 running the self-test program if provided;
- (RI) 4.1.2.15 if appropriate, examining the radio equipment for receipt of maritime safety information by HF Narrow Band Direct Printing (NBDP) (SOLAS 74/88 regs.IV/7, 12 and 14), including:

- (RI) 4.1.2.15.1 checking for correct operation by monitoring incoming messages or inspecting recent hard copy;
- (RI) 4.1.2.15.2 running the self-test program if provided;
- (RI) 4.1.2.16 examining the 406 MHz satellite Emergency Position Indicating Radio Beacon (EPIRB) (SOLAS 74/88 regs.IV/7 and 14), including:
 - (RI) 4.1.2.16.1 checking position and mounting for float free operation;
 - (RI) 4.1.2.16.2 carrying out visual inspection for defects;
 - (RI) 4.1.2.16.3 carrying out the self-test routine;
 - (RI) 4.1.2.16.4 checking that the unique beacon identification code is clearly marked on the outside of the equipment and, where possible, decoding the unique beacon identification code confirming it is correct;
 - (RI) 4.1.2.16.5 checking that the unique beacon identification code programmed in the EPIRB corresponds with the unique beacon identification code assigned by or on behalf of the Administration;
 - (RI) 4.1.2.16.6 checking that the MMSI number if encoded in the beacon corresponds with the MMSI number assigned to the ship;
 - (RI) 4.1.2.16.7 checking the battery expiry date;
 - (RI) 4.1.2.16.8 if provided, checking the hydrostatic release and its expiry date;
 - (RI) 4.1.2.16.9 checking the emission on operational frequencies, coding and registration on the 406 MHz signal without transmission of a distress call to the satellite;
 - (RI) 4.1.2.16.10 checking that the EPIRB has been subject to maintenance at intervals not exceeding five years at an approved shore-based maintenance facility (SOLAS 74/04 reg.IV/15.9);
 - (RI) 4.1.2.16.11 if possible, checking the emission on operational frequencies, coding and registration on the 121.5 MHz homing signal without transmission of a distress call to the satellite;
- (RI) 4.1.2.17 examining the two-way VHF radiotelephone apparatus (SOLAS 74/88 reg.III/6), including:
 - (RI) 4.1.2.17.1 checking for correct operation on Channel 16 and one other by testing with another fixed or portable VHF installation (SOLAS 74/88 reg.IV/14);
 - (RI) 4.1.2.17.2 checking the battery charging arrangements where re-chargeable batteries are used;
 - (RI) 4.1.2.17.3 checking the expiry date of primary batteries where used;
 - (RI) 4.1.2.17.4 where appropriate, checking any fixed installation provided in a survival craft;

- (RI) 4.1.2.18 examining the search and rescue locating device(s) (SOLAS 74/88/08 regs.III/6, IV/7 and 14), including:
 - (RI) 4.1.2.18.1 checking the position and mounting;
 - (RI) 4.1.2.18.2 monitoring response on ship's 9 GHz radar;
 - (RI) 4.1.2.18.3 checking the battery expiry date; and
- (RI) 4.1.2.19 examining the test equipment and spares carried to ensure carriage is adequate in accordance with the sea areas in which the ship trades and the declared options for maintaining availability of the functional requirements (SOLAS 74/88 reg.IV/15).
- (RI) 4.1.3 For the radio installations, including those used in life-saving appliances, the check that documentation, etc., has been placed on board should consist of:
 - (RI) 4.1.3.1 checking for a valid radio licence issued by the flag Administration (ITU RR Article 24);
 - (RI) 4.1.3.2 checking the radio operator's certificates of competence (SOLAS 74/88 reg.IV/16 and ITU RR Article 56);
 - (RI) 4.1.3.3 checking the radio record (log) (SOLAS 74/88 reg.IV/17 and ITU RR App.11);
 - (RI) 4.1.3.4 checking the carriage of up-to-date ITU publications (ITU RR App.11);
 - (RI) 4.1.3.5 checking the carriage of operating manuals for all equipment (SOLAS 74/88 reg.IV/15); and
 - (RI) 4.1.3.6 checking the carriage of service manuals for all equipment when at-sea maintenance is the declared option (SOLAS 74/88 reg.IV/15).
- (RI) 4.1.4 For the radio installations, including those used in life-saving appliances, of cargo ships the completion of the initial survey should consist of:
 - (RI) 4.1.4.1 the surveyor preparing and forwarding a survey report, indicating clearly the organization he or she represents, to the relevant authorities, detailing results of the survey and recording omissions and deficiencies; if satisfied, the relevant authorities should issue a Cargo Ship Safety Radio Certificate and the associated Record of Equipment (form R).
- (RP) **4.2 Periodical surveys** – see part "General" section 4.4
- (RP) 4.2.1 For radio installations, including radio life-saving appliances, on cargo ships the examination of current certificates and other records should consist of:
 - (RP) 4.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;

- (RP) 4.2.1.2 checking, as appropriate, the validity of the Polar Ship Certificate;
- (RP) 4.2.1.3 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (RP) 4.2.1.4 checking the validity of the International Ship Security Certificate;
- (RP) 4.2.1.5 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (RP) 4.2.1.6 checking the validity of the International Oil Pollution Prevention Certificate;
- (RP) 4.2.1.7 checking the certificates of class, if the ship is classed with a classification society;
- (RP) 4.2.1.8 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (RP) 4.2.1.9 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (RP) 4.2.1.10 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (RP) 4.2.1.11 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (RP) 4.2.1.12 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (RP) 4.2.1.13 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (RP) 4.2.1.14 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5);*
- (RP) 4.2.1.15 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (RP) 4.2.1.16 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (RP) 4.2.1.17 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/88 reg.V/13(b));

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (RP) 4.2.1.18 checking that adequate information is on board to enable the equipment to be properly operated and maintained;
- (RP) 4.2.1.19 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (RP) 4.2.1.20 confirming that any new equipment has been properly approved before installation and that no changes have been made such as would affect the validity of the certificate;
- (RP) 4.2.1.21 confirming that a record has been kept in the period since the last survey to the satisfaction of the Administration and as required by the Radio Regulations (SOLAS 74/88 reg.IV/17);
- (RP) 4.2.1.22 checking documentary evidence that the actual capacity of the battery has been proved in port within the last 12 months (SOLAS 74/88 reg.IV/13);
- (RP) 4.2.1.23 confirming that the provisions of (RI) 4.1.3 have been met;
- (RP) 4.2.1.24 checking that the annual test has been carried out for the Satellite EPIRB and, if applicable, shore-based maintenance has been carried out at intervals not exceeding five years (SOLAS 74/04 reg.IV/15); and
- (RP) 4.2.1.25 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2) when applicable.
- (RP) 4.2.2 For radio installations, including radio life-saving appliances, of cargo ships the periodical survey should consist of:
 - (RP) 4.2.2.1 the provisions of (RI) 4.1.2.
- (RP) 4.2.3 For radio installations, including those used in radio life-saving appliances, of cargo ships the completion of the periodical survey should consist of:
 - (RP) 4.2.3.1 after a satisfactory survey, endorsing the Cargo Ship Safety Radio Certificate; and
 - (RP) 4.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General" section 4.8.
- (RR) **4.3** **Renewal surveys** – see part "General" section 4.5
 - (RR) 4.3.1 For the radio installations, including those used in life-saving appliances, of cargo ships the examination of current certificates and other records should consist of:
 - (RR) 4.3.1.1 the provisions of (RP) 4.2.1, except for the validity of the Cargo Ship Safety Radio Certificate.
 - (RR) 4.3.2 For the radio installations, including those used in radio life-saving appliances, of cargo ships the renewal survey should consist of:

- (RR) 4.3.2.1 the provisions of (RI) 4.1.2.
- (RR) 4.3.3 For the radio installations, including those used in radio life-saving appliances, of cargo ships the completion of the renewal survey should consist of:
- (RR) 4.3.3.1 after a satisfactory survey, issuing the Cargo Ship Safety Radio Certificate as per the provisions of (RI) 4.1.4.
- (P) **5 GUIDELINES FOR SURVEYS FOR THE PASSENGER SHIP CERTIFICATE**
- (PI) **5.1 Initial surveys** – see part "General" section 4.1.
- (PI) 5.1.1 For the hull, machinery and equipment of passenger ships the examination of plans and designs should consist of:
- (PI) 5.1.1.1 examining the subdivision and stability (SOLAS 74/88/95 regs.II-1/4 to 8, 8-1, 8-2, 8-3, 13 and 16) (SOLAS 74/06/08 regs.II-1/5 to 8-1, 14 and 18; IS Code chs.1, 2 and 3) (SOLAS 74/12 regs.II-1/8-1);
- (PI) 5.1.1.2 examining the ballasting arrangements (SOLAS 74/88 reg.II-1/9) (SOLAS 74/06 reg.II-1/20);
- (PI) 5.1.1.3 examining the arrangement of the bulkheads, their construction and the openings therein, including the disposition and means of operation of the watertight doors (SOLAS 74/88 regs.II-1/10, 14, and 15) (SOLAS 74/06 regs.II-1/10, 11 12 and 13);
- (PI) 5.1.1.4 examining the arrangement of the double bottoms (SOLAS 74/88 reg.II-1/12) (SOLAS 74/06 reg.II-1/9);
- (PI) 5.1.1.5 examining the arrangements for the openings in the shell plating below the margin line or the bulkhead deck as applicable, the construction of the watertight doors, sidescuttles, watertight decks, trunks, etc., and the watertight integrity above the margin line or the bulkhead deck as applicable (SOLAS 74/88 regs.II-1/17, 18, 19 and 20) (SOLAS 74/06 regs.II-1/15, 16, 16-1 and 17);
- (PI) 5.1.1.6 examining the plans for the bilge pumping and drainage systems (SOLAS 74/88 regs.II-1/21 and 39) (SOLAS 74/05/09 reg.II-1/35-1 and SOLAS 74/08 reg.II-2/20.6.1.4);
- (PI) 5.1.1.7 examining, when appropriate, the means of indicating the status of any bow doors and the leakage therefrom (SOLAS 74/88 reg.II-1/23-2) (SOLAS 74/06 reg.II-1/17-1);
- (PI) 5.1.1.8 examining the plans for the machinery installation (SOLAS 74/88 regs.II-1/26 to 36 and 54);
- (PI) 5.1.1.9 examining the plans for the electrical installation (SOLAS 74/88 regs.II-1/39, 40, 41, 42, 44 and 45);
- (PI) 5.1.1.10 checking, when appropriate, the provision of supplementary emergency lighting (SOLAS 74/88 reg.II-1/42-1);

- (PI) 5.1.1.11 examining, where applicable, the approved documentation for the alternative design and arrangements (SOLAS 74/00/06/15 regs.II-1/55, II-2/17 and III/38 and IGF Code ch.2);
- (PI) 5.1.1.12 examining the plans for the fire pumps, including the emergency fire pump* if applicable, fire mains, hydrants, hoses and nozzles and the international shore connection (SOLAS 74/88 reg.II-1/39 and SOLAS 74/00/14 reg.II-2/10.2; FSS Code chs.2 and 12) (SOLAS 74/88 reg.II-1/39 and regs.II-2/4 and 19);
- (PI) 5.1.1.13 examining the plans for the fire-extinguishing arrangements in the machinery spaces (SOLAS 74/00/12/14 regs.II-2/10.4 and 10.5; FSS Code chs.5, 6 and 7) (SOLAS 74/88 reg.II-2/7);
- (PI) 5.1.1.14 checking the provision and specification of the fire extinguishers and the fire-fighters' outfits including their self-contained compressed air breathing apparatus, and provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (SOLAS 74/88 regs.II-2/6 and 17) (SOLAS 74/00/12 reg.II-2/10.10);
- (PI) 5.1.1.15 for passenger ships constructed on or after 1 July 2010, checking the provision of a suitably located means for fully recharging breathing air cylinders (SOLAS 74/08 reg.II-2/10.10.2);
- (PI) 5.1.1.16 examining the plans for the fire-extinguishing and special arrangements in the machinery spaces (SOLAS 74/88 regs.II-1/39 and regs.II-2/7 and 11);
- (PI) 5.1.1.17 examining the arrangements for oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2.3) (SOLAS 74/88 reg.II-2/15);
- (PI) 5.1.1.18 examining the plans for the structural fire protection, including the means of escape (SOLAS 74/00/12/15 regs.II-2/4.4.4, 5.2, 5.3, 7.5, 7.8.2, 8.4, 8.5, 9, 10.6, 11, 13, 17, 20 and 20-1; FSS Code ch.13, sections 1 and 2) (SOLAS 74/88 regs.II-2/23 to 36);
- (PI) 5.1.1.19 examining the plans for the protection of special category spaces and other cargo spaces (SOLAS 74/88 regs.II-2/37, 38 and 39) (SOLAS 74/00/06/10/15 regs.II-2/ 7.6, 9, 10.7.1, 10.7.2 and 20; FSS Code chs.9 and 10);
- (PI) 5.1.1.20 examining the plans for the fire protection arrangements for passenger ships designed to carry containers on or above the weather deck, as applicable, including the water mist lance (SOLAS 74/00/14 reg.II 2/10.7.3);
- (PI) 5.1.1.21 examining the plans for the fixed fire detection and alarm system, and any automatic sprinkler, fire detection and fire alarm system, as applicable, in machinery spaces, including enclosed spaces containing incinerators, accommodation and service spaces and control spaces (SOLAS 74/00/06/10 reg.II-2/7 (except 7.5.5, 7.6 and 7.9); FSS Code chs.8, 9 and 10) (SOLAS 74/88 reg.II-2/40);

* Refer to *the Unified interpretation of chapter 12 of the International Code for Fire Safety Systems* (MSC.1/Circ.1388).

- (PI) 5.1.1.22 examining the plans for the crew alarm and the public address system or other effective means of communication (SOLAS 74/00/06 reg.II-2/7.9; FSS Code ch.9; LSA Code ch.7) (SOLAS 74/88 reg.II-2/40);
- (PI) 5.1.1.23 examining the plans for the special arrangements for the carriage of dangerous goods, when appropriate, including water supplies, electrical equipment and wiring, fire detection sample extraction smoke detection system, bilge pumping and personnel protection (SOLAS 74/88 regs.II-2/41 and 54) (SOLAS 74/00/08 reg.II-2/19; FSS Code chs.9 and 10);
- (PI) 5.1.1.24 examining the provision and disposition of the survival craft and rescue boats and the arrangements for mustering passengers (SOLAS 74/00 regs.III/11 to 17, 21 and 24);
- (PI) 5.1.1.25 examining the design of the survival craft, including their construction, equipment, fittings, release mechanisms and recovery appliances and embarkation and launching arrangements (SOLAS 74/88 regs.III/ 20 to 24, 36, 38 to 44 and 48) (SOLAS 74/06 reg.III/4) (LSA Code sections 3.2, 4.1 to 4.6, 6.1 to 6.2);
- (PI) 5.1.1.26 examining the design of the rescue boats, including their equipment and launching and recovery appliances and arrangements (SOLAS 74/88 regs.III/16, 20, 47 and 48);
- (PI) 5.1.1.27 examining the provision, specification and stowage of two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 reg.III/6.2.2);
- (PI) 5.1.1.28 examining the provision, specification and stowage of the distress flares and the line-throwing appliance and the provision of onboard communications equipment and the general alarm system (SOLAS 74/88 regs.III/6, 17, 35, 49 and 50);
- (PI) 5.1.1.29 examining the provision, specification and stowage of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets, immersion suits and thermal protective aids (SOLAS 74/88/06 regs.III/7, 21, 22 and 26);
- (PI) 5.1.1.30 examining the plans for the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including the supply from the emergency source of power (SOLAS 74/88 regs.II-1/42 and III/11);
- (PI) 5.1.1.31 examining the plans for the positioning of, and the specification for, the navigation lights, shapes and sound signalling equipment (COLREG 1972, rules 20 to 24, 27 to 30 and 33);
- (PI) 5.1.1.32 examining the plans relating to the bridge design and arrangement of navigational systems and equipment and bridge procedures (SOLAS 74/00 reg.V/15);
- (PI) 5.1.1.33 checking the provision and specification of the following navigation equipment as appropriate: daylight signalling lamp, magnetic compass, transmitting heading device, gyro compass, gyro compass repeaters,

- radar installation(s), automatic identification system, electronic plotting aid, automatic tracking aid(s) or automatic radar plotting aid(s), echo-sounding device, speed and distance indicator, rudder angle indicator, propeller rate of revolution indicator, variable pitch propeller pitch and operational mode indicator, rate-of-turn indicator, heading or track control system, GNSS receiver, terrestrial radio navigation system and sound reception system, a pelorus or compass bearing device, means for correcting heading and bearings, a BNWAS as applicable and ECDIS including backup arrangements as applicable (SOLAS 74/00/09/13 reg.V/19);
- (PI) 5.1.1.34 checking the provision and specification of the voyage data recorder (SOLAS 74/00 reg.V/20);
- (PI) 5.1.1.35 checking navigation bridge visibility (SOLAS 74/00 reg.V/22);
- (PI) 5.1.1.36 checking for the provision and specification of the long-range identification and tracking system (SOLAS 74/04 reg.V/19-1);
- (PI) 5.1.1.37 checking the plans and specification of the pilot transfer arrangement, the pilot ladders, the combination arrangements, where applicable, the access to the ship's deck and the associated equipment and lighting and pilot transfer arrangements (SOLAS 74/00/10 reg.V/23);
- (PI) 5.1.1.38 establishing the sea areas declared for operation, the equipment installed to fulfil the functional requirements for the sea areas of operation, the methods adopted to ensure the availability of the functional requirements and the arrangements for supply of an emergency source of energy (if any) (SOLAS 74/88 regs.II-1/42 and IV/1 to 15);
- (PI) 5.1.1.39 establishing which radio equipment is to be surveyed and, if duplication of equipment is used as a means of ensuring the availability of the functional requirements, establishing which is the "basic equipment" and which the "duplicated equipment" (SOLAS 74/88 reg.IV/15) (additional radiocommunication equipment provided other than for SOLAS compliance should be noted);
- (PI) 5.1.1.40 confirming that all SOLAS equipment complies with appropriate performance standards not inferior to those adopted by IMO (SOLAS 74/88 reg.IV/14);
- (PI) 5.1.1.41 examining the plans for the provision and positioning of the radio installation including sources of energy and antennas (SOLAS 74/88 regs.II-1/42, IV/6 and 14);
- (PI) 5.1.1.42 examining the plans for the provision and positioning of the radio life-saving appliances (SOLAS 74/88 reg.III/6);
- (PI) 5.1.1.43 if applicable, checking that a list of all limitations on the operation of a passenger ship is kept on board and updated;
- (PI) 5.1.1.44 checking the provision of means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders (SOLAS 74/08 reg.II-1/3-9);

- (PI) 5.1.1.45 checking the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5);
- (PI) 5.1.1.46 for passenger ships constructed on or after 1 July 2010, checking the provision of a safety centre (SOLAS 74 reg.II-2/23) and associated ventilation requirements (SOLAS 74/06 reg.II-2/8.2);
- (PI) 5.1.1.47 for passenger ships constructed on or after 1 July 2010 and having a length of 120 m or more or having three or more main vertical zones, confirming that design criteria for the ship's safe return to port and for systems to remain operational after a fire casualty have been documented and that safe areas have been designated (SOLAS 74/06 regs.II-2/21 and 22); and
- (PI) 5.1.1.48 where applicable, examining the Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units (SOLAS 74/98/02 reg.VI/5.6).
- (PI) 5.1.2 For the hull, machinery and equipment of passenger ships, concerning the examination of plans and designs additional requirements for the passenger ships using natural gas as fuel other than ships covered by the IGC Code should consist of:
 - (PI) 5.1.2.1 examining the plans for the fuel containment systems, control of vapour space of the liquefied gas fuel tanks, vapour detection, gauging, loading limits for the liquefied gas fuel tanks and other special requirements (IGF Code chs.5, 6, 7, 8 and 15));
 - (PI) 5.1.2.2 examining the plans for the ship arrangements (IGF Code ch.5);
 - (PI) 5.1.2.3 examining the plans for piping systems (IGF Code chs.5, 6, 7 and 9);
 - (PI) 5.1.2.4 examining the plans for the pressure control (IGF Code ch.6);
 - (PI) 5.1.2.5 examining the plans for the environmental control (IGF Code ch.6);
 - (PI) 5.1.2.6 examining the plans for machinery installation (IGF Code ch.10);
 - (PI) 5.1.2.7 examining the plans for fire protection and fire extinction equipment (IGF Code ch.11);
 - (PI) 5.1.2.8 examining the plans, for the fire detection and alarm system and fire-fighting arrangements (IGF Code paras.11.4, 11.5, 11.6 and 11.7);
 - (PI) 5.1.2.9 examining the plans for the ventilation systems (IGF Code chs.12 and 13);
 - (PI) 5.1.2.10 examining the plans for the electrical installations (IGF Code chs.12 and 14); and
 - (PI) 5.1.2.11 examining the plans for the control, monitoring and safety systems (IGF Code ch.15).

- (PI) 5.1.3 For the hull, machinery and equipment of passenger ships the survey during construction and after installation should consist of:
- (PI) 5.1.3.1 examining the outside of the ship's bottom, including the bottom and bow plating, keel, bilge keels, stem, stern frame, the rudder, sea chests and strainers (SOLAS 74/88 reg.I/7(b)(i));
- (PI) 5.1.3.2 confirming the arrangements on which the calculations for subdivision and stability are based, and checking the subdivision load lines (SOLAS 74/88 /95 regs.II-1/4 to 8, 13 and 16) (SOLAS 74/06/08 regs.II-1 /6, 7, 7-1, 7-2, 7-3, 8, 9,14, 18) (SOLAS 74/12 reg.II-1/8-1);
- (PI) 5.1.3.3 confirming the provision of operational information to the master for safe return to port after a flooding casualty by onboard stability computer or shore-based support (SOLAS 74/12 reg.II-1/8-1);
- (PI) 5.1.3.4 checking the ballasting arrangements (SOLAS 74/88 reg.II-1/9) (SOLAS 74/06 reg.II-1/20);
- (PI) 5.1.3.5 confirming that dedicated seawater ballast tanks have an approved coating system when appropriate (SOLAS 74/00/06 reg.II-1/3-2);
- (PI) 5.1.3.6 confirming the arrangement of the bulkheads, their construction and the openings therein, confirming that the collision bulkhead is watertight up to the freeboard deck, that the valves fitted on the pipes piercing the collision bulkhead are operable from above the freeboard deck and that there are no doors, manholes, ventilation ducts or any other openings, confirming that the other bulkheads, as required for the ship's subdivision, are watertight up to the bulkhead deck and confirming the construction of the watertight doors and that they have been tested (SOLAS 74/88 regs.II-1/10, 14, 15 and 18) (SOLAS 74/06 regs.II-1/10, 11, 12, 13 and 16);
- (PI) 5.1.3.7 confirming that the watertight integrity has been maintained where pipes, scuppers, etc., pass through subdivision watertight bulkheads (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.8 confirming that a diagram is provided on the navigating bridge showing the location of the watertight doors together with indicators showing whether the doors are open or closed and confirming that the watertight doors and their means of operation have been installed in accordance with the approved plans (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.9 testing the operation of the watertight doors both from the navigating bridge in the event of an emergency and locally at the door itself (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13) and, in particular, that they are:
- (PI) 5.1.3.9.1 operable locally from each side of the bulkhead;
- (PI) 5.1.3.9.2 provided with devices giving an indication of whether the door is open or closed at all remote operating positions;
- (PI) 5.1.3.9.3 provided with an audible alarm that is distinct from any other alarm in the area and, when appropriate, an intermittent visual signal;

- (PI) 5.1.3.9.4 provided with control handles on each side of the bulkhead so that a person may hold both handles in the open position and pass safely through the watertight door without accidentally setting the power closing mechanism into operation;
- (PI) 5.1.3.10 testing the remote hand-operation to close the power-operated sliding watertight door from an accessible position above the bulkhead deck (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.11 confirming that the watertight doors and their indicating devices are operable in the event of a failure of the main and emergency sources of power (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.12 checking, when appropriate, any watertight doors, that are not required to be closed remotely and are fitted in watertight bulkheads dividing 'tween deck spaces, and confirming that a notice is affixed concerning their closure (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.13 confirming that a notice is affixed to any portable plates on bulkheads in machinery spaces concerning their closure and, if appropriate, testing any power-operated watertight door fitted in lieu (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.14 confirming the arrangements for closing sidescuttles and their deadlights, also scuppers, sanitary discharges and similar openings and other inlets and discharges in the shell plating below the bulkhead deck (SOLAS 74/06 reg.II-1/15);
- (PI) 5.1.3.15 confirming that valves for closing the main and auxiliary sea inlets and discharges in the machinery spaces are readily accessible and indicators showing the status of the valves are provided (SOLAS 74/06 reg.II-1/15);
- (PI) 5.1.3.16 confirming that gangway, cargo and fuelling ports fitted below the bulkhead deck can be effectively closed and that the inboard end of any ash or rubbish chutes are fitted with an effective cover (SOLAS 74/06 reg.II-1/13);
- (PI) 5.1.3.17 confirming by a hose or flooding test the watertightness of watertight decks and trunks, tunnels and ventilators (SOLAS 74/88 reg.II-1/19) (SOLAS 74/06 reg.II-1/16-1);
- (PI) 5.1.3.18 confirming the arrangements to maintain the watertight integrity above the bulkhead deck (SOLAS 74/06 regs.II-1/17 and 17-1);
- (PI) 5.1.3.19 confirming the arrangements for the bilge pumping and that each bilge pump and the bilge pumping system provided for each watertight compartment are working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
- (PI) 5.1.3.20 confirming that the drainage system of enclosed cargo spaces situated on the freeboard deck is working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);

- (PI) 5.1.3.20.1 examining visually the drainage facilities for blockage or other damage and confirming the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5);
- (PI) 5.1.3.21 conducting an inclining test (SOLAS 74/88 reg.II-1/22) (SOLAS 74/06 reg.II-1/5);
- (PI) 5.1.3.22 checking, when appropriate, the means of indicating the status of any bow doors and any leakage therefrom (SOLAS 74/88 reg.II-1/23-2) (SOLAS 74/06 reg.II-1/17-1);
- (PI) 5.1.3.23 confirming that the arrangement for monitoring special category spaces or ro-ro spaces, when fitted, is satisfactory (SOLAS 74/06 reg.II-1/23);
- (PI) 5.1.3.24 confirming that the machinery, boilers and other pressure vessels, associated piping systems and fittings are installed and protected so as to reduce to a minimum any danger to persons on board, due regard being given to moving parts, hot surfaces and other hazards (SOLAS 74/88 reg.II-1/26);
- (PI) 5.1.3.25 confirming that the normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative (SOLAS 74/88 reg.II-1/26);
- (PI) 5.1.3.26 confirming that means are provided so that the machinery can be brought into operation from the dead ship condition without external aid (SOLAS 74/88 reg.II-1/26);
- (PI) 5.1.3.27 confirming that the boilers, all parts of the machinery, all steam, hydraulic, pneumatic and other systems and their associated fittings which are under internal pressure have been subjected to the appropriate tests, including a pressure test (SOLAS 74/88 reg.II-1/26);
- (PI) 5.1.3.28 confirming that means are provided to ensure that the safe speed is not exceeded where there is the risk of machinery overspeeding (SOLAS 74/88 reg.II-1/27);
- (PI) 5.1.3.29 confirming that, where practicable, means are provided to protect against overpressure in the parts of main, auxiliary and other machinery that are subject to internal pressure and may be subject to dangerous overpressure (SOLAS 74/88 reg.II-1/27);
- (PI) 5.1.3.30 confirming that, when required, crankcase explosion relief devices are fitted to internal combustion engines and that they are arranged so as to minimize the possibility of injury to personnel (SOLAS 74/88 reg.II-1/27);
- (PI) 5.1.3.31 confirming that main turbine propulsion machinery and, where applicable, main internal combustion propulsion machinery and auxiliary machinery are provided with automatic shut-off arrangements in the case of failures, such as lubricating oil supply failure, which could rapidly lead to a complete breakdown, serious damage or explosion (SOLAS 74/88 reg.II-1/27);

- (PI) 5.1.3.32 confirming and recording the ability of the machinery to reverse the direction of the thrust of the propeller in sufficient time and to bring the ship to rest within a reasonable distance, including the effectiveness of any supplementary means of manoeuvring or stopping the ship* (SOLAS 74/88 reg.II-1/28);
- (PI) 5.1.3.33 confirming that the main and auxiliary steering gear are so arranged that the failure of one of them does not render the other inoperative† (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.34 confirming that, where appropriate, essential components of the steering gear are permanently lubricated or provided with lubrication fittings (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.35 confirming that relief valves are fitted to any part of a steering gear hydraulic system which can be isolated and in which pressure can be generated from the power source or from external forces and that these relief valves are set to a pressure not exceeding the design pressure (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.36 confirming that the main steering gear is capable of steering the ship at maximum ahead service speed and is capable of putting the rudder over from 35° on one side to 35° on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and, under the same conditions, from 35° on either side to 30° on the other side in not more than 28 s,‡ or, where demonstration at the deepest seagoing draught is impracticable, with an alternative permissible sea trial loading condition§ (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.37 confirming that the auxiliary steering gear is capable of steering the ship at navigable speed and of being brought speedily into action in an emergency and that it is capable of putting the rudder over from 15° on one side to 15° on the other side in not more than 60 s with the ship at its deepest seagoing draught and running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater,** or, where this is impracticable, with an alternative permissible sea trial loading condition†† (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.38 confirming that the main or auxiliary steering gear power units restart automatically when power is restored after a power failure, that they are

* For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-29 and II-30* (MSC.1/Circ.1416/Rev.1).

† For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-29 and II-30* (MSC.1/Circ.1416/Rev.1).

‡ For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-29 and II-30* (MSC.1/Circ.1416/Rev.1).

§ Refer to the *Unified interpretations of SOLAS regulations II-1/29.3 and II-1/29.4* (MSC.1/Circ.1536).

** For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-29 and II-30* (MSC.1/Circ.1416/Rev.1).

†† Refer to the *Unified interpretations of SOLAS regulations II-1/29.3 and II-1/29.4* (MSC.1/Circ.1536).

- capable of being brought into operation from a position on the navigating bridge and that, in the event of a power failure to any one of the steering gear power units, an audible and visual alarm is given on the navigating bridge (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.39 confirming that, where the main steering gear comprises two or more identical power units and an auxiliary steering gear is not fitted, a defect can be isolated so that steering capability can be maintained or speedily regained after a single failure in its piping system or in one of the power units (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.40 confirming that the control systems for the main steering gear from both the navigating bridge and the steering gear compartment are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.41 confirming that, where the main steering gear comprises two or more identical power units and an auxiliary steering gear is not fitted, the two independent control systems from the navigating bridge are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.42 confirming that the control system for the auxiliary steering gear, in the steering gear compartment and, if this gear is power-operated, from the navigating bridge, is operating satisfactorily and that the latter is independent of the control system for the main steering gear (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.43 confirming that the control system for any main and auxiliary steering gear control system operable from the navigating bridge is capable of being brought into operation from a position on the navigating bridge, that means are provided in the steering gear compartment for disconnecting it from the steering gear that it serves and that an audible and visual alarm is given on the navigating bridge in the event of a failure of electrical power supply (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.44 confirming that the electric power circuits and steering gear control system, together with their associated components, cables and pipes, are separated, as far as practicable, throughout their length (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.45 confirming that the means of communication between the bridge and the steering gear is operating satisfactorily and that, with ships having emergency steering positions, a telephone or other means of communication for relaying heading information and supplying visual compass readings to the emergency steering position are provided (SOLAS 74/88/14 reg.II-1/29) (SOLAS 74/00 reg.V/19);
- (PI) 5.1.3.46 confirming that the angular position of the rudder is indicated independently of the steering control system on the navigating bridge if the main steering gear is power-operated and that this angular position is given in the steering gear compartment (SOLAS 74/88/14 reg.II-1/29) (SOLAS 74/00 reg.V/19);
- (PI) 5.1.3.47 confirming that with a hydraulic power-operated steering gear the audible and visual low-level alarms on the navigating bridge and in the

- machinery space for each hydraulic fluid reservoir are operating satisfactorily and that at least one power actuating system including the reservoir can be recharged from a position within the steering gear compartment by means of a fixed storage tank to which a contents gauge is fitted with fixed piping (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.48 confirming that the steering gear compartment is readily accessible, that it is separated, as far as practicable, from machinery spaces and is provided with suitable arrangements to ensure working access to steering gear machinery and controls under safe conditions (SOLAS 74/88/14 reg.II-1/29);
- (PI) 5.1.3.49 confirming that with electric and electro-hydraulic steering gear, the means for indicating, on the navigating bridge and at a main machinery control position, that the motors are running and that the overload alarm and alarm for the loss of a phase in a three-phase supply located at the main machinery control position are operating satisfactorily (SOLAS 74/88 reg.II-1/30);
- (PI) 5.1.3.50 confirming that the main and auxiliary machinery essential for propulsion and the safety of the ship are provided with the effective means for its operation and control (SOLAS 74/88 reg.II-1/31);
- (PI) 5.1.3.51 confirming that appropriate means are provided where it is intended that the propulsion machinery should be remotely controlled from the navigating bridge, including, where necessary, the control, monitoring, reporting, alert and safety actions (SOLAS 74/00/02 reg.II-1/31);
- (PI) 5.1.3.52 confirming that arrangements to operate main and other machinery from a machinery control room are satisfactory (SOLAS 74/88 reg.II-1/31);
- (PI) 5.1.3.53 confirming that, in general, means are provided for manually overriding automatic controls and that a failure does not prevent the use of the manual override (SOLAS 74/88 reg.II-1/31);
- (PI) 5.1.3.54 confirming that oil-fired and exhaust gas boilers, unfired steam generators, steam pipe systems and air pressure systems are fitted with the appropriate safety features (SOLAS 74/88 regs.II-1/32, 33 and 34);
- (PI) 5.1.3.55 confirming the operation of the ventilation for the machinery spaces (SOLAS 74/88 reg.II-1/35);
- (PI) 5.1.3.56 when appropriate, confirming that the measures to prevent noise in machinery spaces are effective (SOLAS 74/88 reg.II-1/36 and SOLAS 74/12 reg.II-1/3-12.2); or confirming that the ship was constructed to reduce onboard noise and to protect personnel from noise in accordance with the Code on Noise Levels on Board Ships, adopted by resolution MSC.337(91), as amended (SOLAS 74/12 reg.II-1/3-12);
- (PI) 5.1.3.57 confirming that the engine-room telegraph giving visual indication of the orders and answers both in the machinery space and on the navigating bridge is operating satisfactorily (SOLAS 74/88 regulation II-1/37);
- (PI) 5.1.3.58 confirming that the second means of communication between the navigation bridge and machinery space is also operating

- satisfactorily and that appropriate means are provided to any other positions from which the engines are controlled (SOLAS 74/88 regulation II-1/37);
- (PI) 5.1.3.59 confirming that the engineer's alarm is clearly audible in the engineers' accommodation (SOLAS 74/88 regulation II-1/38);
- (PI) 5.1.3.60 confirming that precautions, taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces, are efficient;
- (PI) 5.1.3.61 confirming that the means of ascertaining the amount of oil contained in any oil tank are in satisfactory working condition (SOLAS 74/88 reg.II-2/15) (SOLAS 74/00 reg.II-2/4.2.2.3.5);
- (PI) 5.1.3.62 confirming that the devices provided to prevent overpressure in any oil tank or in any part of the oil system, including the filling pipes, are in satisfactory working condition (SOLAS 74/88 reg.II-2/15) (SOLAS 74/00 reg.II-2/4.2.2.4);
- (PI) 5.1.3.63 confirming that forepeak tanks are not intended for carriage of oil fuel, lubrication oil and other flammable oils;
- (PI) 5.1.3.64 confirming that the electrical installations, including the main source of power and lighting systems, are installed in accordance with the approved plans (SOLAS 74/88 regs.II-1/40 and 41);
- (PI) 5.1.3.65 confirming that a self-contained emergency source of electrical power has been provided and that the appropriate systems are satisfactorily supplied (SOLAS 74/88 reg.II-1/42);
- (PI) 5.1.3.66 confirming that the starting arrangements of each emergency generating set are satisfactory (SOLAS 74/88 reg.II-1/44);
- (PI) 5.1.3.67 checking, when appropriate, the disposition of, and testing, the supplementary emergency lighting (SOLAS 74/88 reg.II-1/42-1);
- (PI) 5.1.3.67.1 for passenger ships, constructed on or after 1 July 2010, confirming provision of supplementary lighting in all cabins, and checking that such lighting automatically illuminates and remains on for a minimum of 30 min when power to the normal cabin lighting is lost (SOLAS 74/06/10 reg.II-1/41.6);
- (PI) 5.1.3.67.2 for passenger ships constructed on or after 1 July 2010, checking the provision of smoke detectors in cabins, which, when activated, are capable of emitting, or cause to be emitted, an audible alarm within the space where they are located (SOLAS 74/06 regs.II-2/7.5.2 and 7.5.3.1);
- (PI) 5.1.3.68 confirming that precautions have been provided against shock, fire and other hazards of electrical origin (SOLAS 74/88 reg.II-1/45);
- (PI) 5.1.3.69 confirming, when appropriate, that the arrangements for the machinery spaces being periodically unattended are satisfactory (SOLAS 74/88 reg.II-1/54);

- (PI) 5.1.3.70 examining, where applicable, the alternative design and arrangements for machinery or electrical installations, low-flashpoint fuel storage and distribution systems, fire safety, or life-saving appliances and arrangements, in accordance with the test and inspection requirements, if any, specified in the approved documentation (SOLAS 74/00/06/15 regs.II-1/55, II-2/17 and III/38 and IGF Code ch.2);
- (PI) 5.1.3.71 examining the fire pumps and fire main and the disposition of the hydrants, hoses and nozzles and the international shore connection and checking that each fire pump, including the emergency fire pump, can be operated separately so that two jets of water are produced simultaneously from different hydrants at any part of the ship while the required pressure is maintained in the fire main and testing that the emergency fire pump, if applicable, has the required capacity, and, if the emergency fire pump is the main supply of water for any fixed fire-extinguishing system, checking that the emergency fire pump has the capacity for this system* (SOLAS 74/88 regs.II-2/4 and 19; SOLAS 74/00/14 reg.II-2/10.2; FSS Code chs.2 and 12);
- (PI) 5.1.3.72 for passenger ships designed to carry containers on or above the weather deck, as applicable, examining the water mist lance (SOLAS 74/00/14 reg.II-2/10.7.3);
- (PI) 5.1.3.73 examining the provision and disposition of the fire extinguishers (SOLAS 74/00 reg.II-2/10.3; FSS Code ch.4) (SOLAS 74/88 reg.II-2/17);
- (PI) 5.1.3.74 examining the fire-fighters' outfits including their self-contained compressed air breathing apparatus, and emergency escape breathing devices (EEBDs); confirming that they are complete and in satisfactory condition and that the cylinders, including the spare cylinders, of the self-contained breathing apparatus, are suitably charged, and that onboard means of recharging breathing apparatus cylinders used during drills or a suitable number of spare cylinders to replace those used are provided, and provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe. (SOLAS 74/00/08/12 regs.II-2/10.10, 13.3.4, 13.4.3 and 15.2.2; FSS Code ch.3) (SOLAS 74/88 reg.II-2/17);
- (PI) 5.1.3.75 checking the operational readiness and maintenance of fire-fighting systems (SOLAS 74/00 reg.II-2/14) (SOLAS 74/88 regs.II-2/6, 17 and 21);
- (PI) 5.1.3.76 examining the fixed fire-fighting system for the machinery, cargo, special category and vehicle spaces, as appropriate, and confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked (SOLAS 74/00/12/14 regs.II-2/10.4, 10.5, 10.7.1, 10.7.2 and 20.6.1; FSS Code ch.5 to 7) (SOLAS 74/88 regs.II-2/7 and 53);
- (PI) 5.1.3.77 examining the fire-extinguishing and special arrangements in the machinery spaces and confirming, as far as practicable and as appropriate, the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of

* Refer to the *Unified interpretation of chapter 12 of the International Code for Fire Safety Systems* (MSC.1/Circ.1388).

- the funnel and ventilation openings, the closure of power-operated and other doors, the stopping of ventilation and boiler forced and induced draught fans and the stopping of oil fuel and other pumps that discharge flammable liquids (SOLAS 74/00/12/14 regs.II-2/5.2, 8.3, 9.5 and 10.5) (SOLAS 74/88 regs.II-2/7 and 11);
- (PI) 5.1.3.78 checking that fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces, where applicable, are provided with two separate controls, one for opening the gas piping and one for discharging the gas from the storage container, each of them located in a release box clearly identified for the particular space (SOLAS 74/08 reg.II-2/10.4; FSS Code ch.5.2.2.2);
- (PI) 5.1.3.79 examining the arrangements for oil fuel, lubricating oil and other flammable oils and testing the remote closing of valves for oil fuel, lubricating oil and other flammable oils and the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils (SOLAS 74/88/06 reg.II-2/15) (SOLAS 74/00/15 reg.II-2/4.2);
- (PI) 5.1.3.80 examining any fire detection and alarm system and confirming that installation tests have been satisfactorily completed (SOLAS 74/88 regs.II-2/11, 12, 13, 14, 36 and 41);
- (PI) 5.1.3.81 confirming that all aspects of installation of the structural fire protection, including the structure, fire integrity, protection of stairways and lifts, cabin balconies, openings in "A" and "B" Class divisions, ventilation systems and windows and sidescuttles, and the use of combustible material are in accordance with the approved plans (SOLAS 74/00/04/12/15 regs.II-2/4.4.4, 5.2, 5.3, 7.5, 7.8.2, 8.4, 8.5, 9, 10.6, 11, 13, 17, 20, 20-1 and FSS Code ch.13 sections 1 and 2) (SOLAS 74/88 regs.II-2/23 to 35);
- (PI) 5.1.3.82 testing any manual and automatic fire doors, including the means of closing the openings in "A" and "B" Class divisions (SOLAS 74/88 regs.II-2/30 and 31);
- (PI) 5.1.3.83 testing the means of closing the main inlets and outlets of all ventilation smoke extraction systems and proving that the power ventilation is capable of being stopped from outside the space served (SOLAS 74/88 reg.II-2/32);
- (PI) 5.1.3.84 confirming that stairways and ladders are so arranged as to provide a means of escape to the lifeboat and liferaft and liferaft embarkation deck from all passenger and crew spaces and from those spaces in which the crew is normally employed (SOLAS 74/00 reg.II- 2/13.7) and in particular that:
- (PI) 5.1.3.84.1 below the bulkhead deck there are two means of escape from each watertight compartment, one being independent of watertight doors;
- (PI) 5.1.3.84.2 above the bulkhead deck there are two means of escape from each vertical zone or similar such area, one leading directly to a stairway forming a vertical escape;

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- (PI) 5.1.3.84.3 the radiotelegraph station, if provided, has direct access to the open deck or is provided with two means of access or egress, one of which is a porthole or window of sufficient size;
- (PI) 5.1.3.85 confirming that the means of escape from any special category spaces are generally in accordance with (PI) 5.1.3.84 (SOLAS 74/88 reg.II-2/28);
- (PI) 5.1.3.86 confirming that in the machinery spaces there are two widely separated means of escape leading to the lifeboat and liferaft embarkation decks, including, when from a space below the bulkhead deck, a continuous fire shelter, and that two means of escape are provided for the main workshop located within the machinery space, as applicable (SOLAS 74/00/14 reg.II-2/13.4.1; FSS Code chapter 13) (SOLAS 74/88 reg.II-2/28);
- (PI) 5.1.3.87 confirming the fire protection arrangements, including fire detection and sample extraction smoke detection systems for cargo spaces for cargo and dangerous goods and testing, as appropriate, the operation of the means for closing the various openings (SOLAS 74/88 reg.II-2/39) (SOLAS 74/00/14 regs.II-2/7.6, 10.7.1 and 10.7.2; FSS Code chs.5, 9 and 10);
- (PI) 5.1.3.88 confirming the fire protection arrangements, including fire detection and sample extraction smoke detection systems, where applicable for vehicle, special category and ro-ro spaces and testing, as appropriate, the operation of the means for closing the various openings (SOLAS 74/88 regs.II-2/37, and 38) (SOLAS 74/00/15 reg.II-2/20 (except 20.5); FSS Code chs.5, 6, 7, 9, 10);
- (PI) 5.1.3.89 confirming and testing, as appropriate, any fixed fire detection and alarm system, and any automatic sprinkler, fire detection and fire alarm system, as applicable, in machinery spaces, including enclosed spaces containing incinerators, accommodation, service and control spaces (SOLAS 74/88 reg.II-2/40) (SOLAS 74/00/06/10 reg.II-2/7 (except 7.5.5, 7.6 and 7.9); FSS Code chs.8 and 9);
- (PI) 5.1.3.90 confirming and testing the special alarm and the public address system or other effective means of communication (SOLAS 74/88 reg.II-2/40) (SOLAS 74/00/06/10 reg.II-2/12; LSA Code ch.7);
- (PI) 5.1.3.91 for passenger ships constructed on or after 1 July 2010, confirming the provision of a fixed fire detection and fire alarm system for passenger ships capable of remotely and individually identifying each detector and manually operated call point (SOLAS 74/06 reg.II-2/7.2.4);
- (PI) 5.1.3.92 examining, when appropriate, the special arrangements for carrying dangerous goods, including checking the electrical equipment and wiring, fire detection, ventilation and boundary insulation, the provision of protective clothing and portable appliances and the testing of the water supply, bilge pumping and any water spray system (SOLAS 74/88 regs.II-2/41 and 54) (SOLAS 74/00/08 reg.II-2/19);
- (PI) 5.1.3.93 checking the provision and disposition of the survival craft and rescue boats and the arrangements for mustering passengers (SOLAS 74/88 regs III/11 to 16, 20 and 24);

- (PI) 5.1.3.94 examining each survival craft, including its equipment, and that the required number of search and rescue locating devices are fitted in liferafts and those liferafts are clearly marked (SOLAS 74/88/00/02/08 regs.III/20, 21 and 26; LSA Code sections 2.3 to 2.5, 3.2 and 4.1 to 4.6);
- (PI) 5.1.3.95 examining the embarkation arrangements for each survival craft and the testing of each launching appliance, including overload tests, tests to establish the lowering speed and the lowering of each survival craft to the water with the ship at its lightest seagoing draught, checking the recovery of each lifeboat (SOLAS 74/88 regs.III/11, 12, 13, 15, 20 and 48);
- (PI) 5.1.3.96 deploying 50% of the MES after installation (LSA Code paragraph 6.2.2.2);
- (PI) 5.1.3.97 examining each rescue boat, including its equipment; for inflatable rescue boats, confirming that they are stowed in a fully inflated condition (SOLAS 74/00/04 regs.III/21 and 26.3; LSA Code section 5.1 and MSC/Circ.809);
- (PI) 5.1.3.98 examining the embarkation and recovery arrangements for each rescue boat and testing each launching and recovery appliance, including overload tests, tests to establish the lowering and recovery speeds and ensuring that each rescue boat can be lowered to the water and recovered with the ship at its lightest seagoing draught; the rescue boat(s) should be lowered to the water and its recovery demonstrated while underway at 5 knots (SOLAS 74/88 regs.III/14, 16, 17 and 20);
- (PI) 5.1.3.99 examining the arrangements for mustering passengers (SOLAS 74/88 reg.III/24);
- (PI) 5.1.3.100 testing that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactorily and operate both ahead and astern (LSA Code section 4.4.6.5);
- (PI) 5.1.3.101 confirming that there are posters or signs in the vicinity of survival craft and their launching stations (SOLAS 74/88 reg.III/9);
- (PI) 5.1.3.102 examining the provision and stowage and checking the operation of two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 reg.III/6);
- (PI) 5.1.3.103 examining the provision and stowage of the distress flares and the line-throwing appliance, checking the provision and operation of onboard communications equipment and testing the means of operation of the general alarm system, verifying that the general alarm system is audible in accommodation, normal crew working spaces and on open decks (SOLAS 74/88 reg.III/6);

- (PI) 5.1.3.104 examining the provision, disposition and stowage of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets,* immersion suits and thermal protective aids (SOLAS 74/88/06 regs.III/7, 21, 22 and 26; LSA Code section 2.1-2.5 and 3.3);
- (PI) 5.1.3.104.1 checking that the life-saving appliances are of an international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea (LSA Code section 1.2.2.6);
- (PI) 5.1.3.104.2 checking the provision of lifejackets in three sizes (Infant, Child, Adult) and checking that they are marked by either weight or height, or by both weight and height (LSA Code section 2.2.1.1); for passenger ships on voyages less than 24 h, checking that the number of infant lifejackets is equal to at least 2.5% of the number of passengers on board and for passenger ships on voyages 24 h or greater, checking that infant lifejackets are provided for each infant on board (SOLAS 74/06 reg.III/7.2.1);
- (PI) 5.1.3.104.3 checking that immersion suits designed to be worn in conjunction with a lifejacket are suitably marked (LSA Code section 2.3.1);
- (PI) 5.1.3.105 checking the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including when supplied from the emergency source of power (SOLAS 74/88 regs.II-1/42 and III/11);
- (PI) 5.1.3.106 checking that means of rescue is provided on ro-ro passenger ships (SOLAS 74/00 reg.III/26.4);
- (PI) 5.1.3.107 checking that a helicopter pick-up area is provided on ro-ro passenger ships (SOLAS 74/00 reg.III/28);
- (PI) 5.1.3.108 checking that a decision support system is provided for the master (SOLAS 74/00 reg.III/29; SOLAS 74/06 regs.II-2/21 and 22);
- (PI) 5.1.3.109 checking the electromagnetic compatibility of electrical and electronic equipment on or in the vicinity of the bridge (SOLAS 74/00 reg.V/17);
- (PI) 5.1.3.110 examining the provision and positioning and checking the operation of, as appropriate, the navigation lights, shapes and sound signalling equipment (International Regulations for Preventing Collisions at Sea in force, rules 20 to 24, 27 to 30 and 33);
- (PI) 5.1.1.111 checking the provision and specification of the daylight signalling lamp (SOLAS 74/88 reg.V/11);
- (PI) 5.1.3.112 checking, as appropriate, the provision and operation of the following equipment (SOLAS 74/00 reg.V/19):

* Regulations III/7.2.1.1, 7.2.1.2 and 7.2.1.5 should be considered.

- (PI) 5.1.3.112.1 the magnetic compass, including examining the siting, movement, illumination and a pelorus or compass bearing device (SOLAS 74/00 reg.V/19);
- (PI) 5.1.3.112.2 that nautical charts and nautical publications necessary for the intended voyage are available and have been updated and, where ECDIS is used, that the electronic charts have been updated and the required backup system is provided and updated (SOLAS 74/00/09 reg.V/19);
- (PI) 5.1.3.112.3 global navigation satellite receiver or terrestrial radionavigation system;
- (PI) 5.1.3.112.4 sound reception system, when bridge is totally enclosed;
- (PI) 5.1.3.112.5 means of communication to emergency steering position, where provided;
- (PI) 5.1.3.112.6 spare magnetic compass;
- (PI) 5.1.3.112.7 daylight signalling lamp;
- (PI) 5.1.3.112.8 echo-sounding device, including examining the display for good access, viewing and lighting;
- (PI) 5.1.3.112.9 radar(s), including examining the waveguide and cable runs for routeing and protection and the display unit confirming lighting, plotting facilities, correct operation of all controls, functions and the true-motion facility if provided;
- (PI) 5.1.3.112.10 electronic plotting aid, automatic tracking aid or automatic radar plotting aid as appropriate, using the appropriate test facilities;
- (PI) 5.1.3.112.11 speed and distance measuring device;
- (PI) 5.1.3.112.12 transmitting heading device providing heading information to radar, plotting aids and automatic identification system equipment and distance devices;
- (PI) 5.1.3.112.13 heading or track control system;
- (PI) 5.1.3.112.14 BNWAS;
- (PI) 5.1.3.113 checking for the provision, specification, operation and annual performance test of the voyage data recorder (SOLAS 74/00/04 reg.V/20);
- (PI) 5.1.3.114 checking that a valid conformance test report of the long-range identification and tracking system is available on board (SOLAS 74/04 reg.V/19-1);
- (PI) 5.1.3.115 checking that the International Code of Signals and an up-to-date copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual have been provided (SOLAS 74/00/02 reg.V/21);

- (PI) 5.1.3.116 checking the provision of the pilot transfer arrangement, the access to the ship's deck and the associated equipment and lighting, checking the operation of the pilot ladders and combination arrangements, where applicable (SOLAS 74/00/10 reg.V/23);
- (PI) 5.1.3.117 examining the position, physical and electromagnetic protection and illumination of each radio installation (SOLAS 74/88 reg.IV/6);
- (PI) 5.1.3.118 confirming the provision of equipment for the radio installation with due regard to the declared sea areas in which the ship will trade and the declared means of maintaining availability of functional requirements (SOLAS 74/88 regs.III/6, IV/7 to 11, 14 and 15);
- (PI) 5.1.3.119 confirming the ability to initiate the transmission of ship-to-shore distress alerts by at least two separate and independent means, each using a different radio communication service, from the position from which the ship is normally navigated (SOLAS 74/88/06 regs.IV/4, 7 to 11);
- (PI) 5.1.3.120 examining all antennas, including:
 - (PI) 5.1.3.120.1 visually checking all antennas, including Inmarsat antennas, and feeders for satisfactory siting and absence of defects (SOLAS 74/88 reg.IV/14);
 - (PI) 5.1.3.120.2 checking insulation and safety of all antennas;
 - (PI) 5.1.3.121 examining the reserve source of energy, including:
 - (PI) 5.1.3.121.1 checking there is sufficient capacity to operate the basic or duplicated equipment for 1 hour or 6 hours, as appropriate (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.121.2 and, if the reserve source of energy is a battery:
 - (PI) 5.1.3.121.2.1 checking its siting and installation (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.121.2.2 where appropriate, checking its condition by specific gravity measurement or voltage measurement;
 - (PI) 5.1.3.121.2.3 with the battery off charge, and the maximum required radio installation load connected to the reserve source of energy, checking the battery voltage and discharge current;
 - (PI) 5.1.3.121.2.4 checking that the charger or chargers are capable of recharging the reserve battery within 10 hours (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.122 examining the VHF transceiver(s), including:
 - (PI) 5.1.3.122.1 checking for operation on channels 6, 13 and 16 (SOLAS 74/88 regs.IV/7 and 14);
 - (PI) 5.1.3.122.2 checking frequency tolerance, transmission line quality and radio frequency power output (SOLAS 74/88 reg.IV/14);

- (PI) 5.1.3.122.3 checking for correct operation of all controls including priority of control units (SOLAS 74/88 reg.IV/14);
- (PI) 5.1.3.122.4 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
- (PI) 5.1.3.122.5 checking the operation of the VHF control unit(s) or portable VHF equipment provided for navigational safety (SOLAS 74/88 reg.IV/6);
- (PI) 5.1.3.122.6 checking for correct operation by on-air contact with a coast station or other ship;
- (PI) 5.1.3.123 examining the VHF DSC controller and channel 70 DSC watch receiver, including:
 - (PI) 5.1.3.123.1 performing an off-air check confirming the correct Maritime Mobile Service Identity is programmed in the equipment (SOLAS 74/88 reg.IV/14);
 - (PI) 5.1.3.123.2 checking for correct transmission by means of a routine or test call to a coast station, other ship, onboard duplicate equipment or special test equipment;
 - (PI) 5.1.3.123.3 checking for correct reception by means of a routine or test call from a coast station, other ship, onboard duplicate equipment or special test equipment;
 - (PI) 5.1.3.123.4 checking the audibility of the VHF/DSC alarm;
 - (PI) 5.1.3.123.5 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
- (PI) 5.1.3.124 examining the MF/HF radiotelephone equipment, including:
 - (PI) 5.1.3.124.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.124.2 checking the antenna tuning in all appropriate bands;
 - (PI) 5.1.3.124.3 checking the equipment is within frequency tolerance on all appropriate bands (SOLAS 74/88 reg.IV/14);
 - (PI) 5.1.3.124.4 checking for correct operation by contact with a coast station and/or measuring transmission line quality and radio frequency output;
 - (PI) 5.1.3.124.5 checking receiver performance by monitoring known stations on all appropriate bands;
 - (PI) 5.1.3.124.6 if control units are provided outside the navigating bridge, checking the control unit on the bridge has first priority for the purpose of initiating distress alerts (SOLAS 74/88 regs.IV/9, 10, 11 and 14);
 - (PI) 5.1.3.124.7 checking the correct operation of the radiotelephone alarm signal generating device on a frequency other than 2182 kHz;

- (PI) 5.1.3.125 examining the HF radiotelex equipment, including:
 - (PI) 5.1.3.125.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.125.2 confirming that the correct selective calling number is programmed in the equipment;
 - (PI) 5.1.3.125.3 checking correct operation by inspection of recent hard copy or by a test with a coast radio station (SOLAS 74/88 regs.IV/10 and 11);
- (PI) 5.1.3.126 examining the MF/HF DSC controller(s), including:
 - (PI) 5.1.3.126.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy (SOLAS 74/88 reg.IV/13);
 - (PI) 5.1.3.126.2 confirming that the correct Maritime Mobile Service Identity is programmed in the equipment;
 - (PI) 5.1.3.126.3 checking the off-air self-test program;
 - (PI) 5.1.3.126.4 checking operation by means of a test call on MF and/or HF to a coast radio station if the rules of the berth permit the use of MF/HF transmissions (SOLAS 74/88 regs.IV/9 to 11);
 - (PI) 5.1.3.126.5 checking the audibility of the MF/HF DSC alarm;
- (PI) 5.1.3.127 examining the MF/HF DSC watch receiver(s), including:
 - (PI) 5.1.3.127.1 confirming that only distress and safety DSC frequencies are being monitored (SOLAS 74/88 regs.IV/9 to 12);
 - (PI) 5.1.3.127.2 checking that a continuous watch is being maintained while keying MF/HF radio transmitters (SOLAS 74/88 reg.IV/12);
 - (PI) 5.1.3.127.3 checking for correct operation by means of a test call from a coast station or other ship;
- (PI) 5.1.3.128 examining the Inmarsat ship earth station(s), including:
 - (PI) 5.1.3.128.1 checking that the equipment operates from the main, emergency (if provided) and reserve sources of energy, and that where an uninterrupted supply of information from the ship's navigational or other equipment is required ensuring such information remains available in the event of failure of the ship's main or emergency source of electrical power (SOLAS 74/88 regs.IV/13 and 14);
 - (PI) 5.1.3.128.2 checking the distress function by means of an approved test procedure where possible (SOLAS 74/88 regs.IV/10, 12 and 14);
 - (PI) 5.1.3.128.3 checking for correct operation by inspection of recent hard copy or by test call;

- (PI) 5.1.3.129 if appropriate, examining the NAVTEX equipment (SOLAS 74/88 regs.IV/7, 12 and 14), including:
 - (PI) 5.1.3.129.1 checking for correct operation by monitoring incoming messages or inspecting recent hard copy;
 - (PI) 5.1.3.129.2 running the self-test program if provided;
- (PI) 5.1.3.130 examining the enhanced group call equipment (SOLAS 74/88 regs.IV/7 and 14), including:
 - (PI) 5.1.3.130.1 checking for correct operation and area by monitoring incoming messages or by inspecting recent hard copy;
 - (PI) 5.1.3.130.2 running the self-test program if provided;
- (PI) 5.1.3.131 if appropriate, examining the radio equipment for receipt of maritime safety information by HF NBDP (SOLAS 74/88 regs.IV/7, 12 and 14), including:
 - (PI) 5.1.3.131.1 checking for correct operation by monitoring incoming messages or inspecting recent hard copy;
 - (PI) 5.1.3.131.2 running the self-test program if provided;
- (PI) 5.1.3.132 examining the 406 MHz satellite EPIRB (SOLAS 74/88 regs.IV/7 and 14), including:
 - (PI) 5.1.3.132.1 checking position and mounting for float-free operation;
 - (PI) 5.1.3.132.2 carrying out visual inspection for defects;
 - (PI) 5.1.3.132.3 carrying out the self-test routine;
 - (PI) 5.1.3.132.4 checking that the unique beacon identification code is clearly marked on the outside of the equipment and, where possible, decoding the unique beacon identification code confirming it is correct;
 - (PI) 5.1.3.132.5 checking that the unique beacon identification code programmed in the EPIRB corresponds with the unique beacon identification code assigned by or on behalf of the Administration;
 - (PI) 5.1.3.132.6 checking that the MMSI number if encoded in the beacon corresponds with the MMSI number assigned to the ship;
 - (PI) 5.1.3.132.7 checking the battery expiry date;
 - (PI) 5.1.3.132.8 if provided, checking the hydrostatic release and its expiry date;
- (PI) 5.1.3.133 examining the two-way VHF radiotelephone apparatus (SOLAS 74/88 reg.III/6), including:
 - (PI) 5.1.3.133.1 checking for correct operation on channel 16 and one other by testing with another fixed or portable VHF installation (SOLAS 74/88 reg.IV/14);

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- (PI) 5.1.3.133.2 checking the battery charging arrangements where rechargeable batteries are used (SOLAS 74/88 reg.IV/14);
- (PI) 5.1.3.133.3 checking the expiry date of primary batteries where used (SOLAS 74/88 reg.IV/14);
- (PI) 5.1.3.133.4 where appropriate, checking any fixed installation provided in a survival craft (SOLAS 74/88 reg.IV/14);
- (PI) 5.1.3.134 examining the search and rescue locating device(s) (SOLAS 74/88/08 reg.III/6 and regs.IV/7 and 14), including:
- (PI) 5.1.3.134.1 checking the position and mounting;
- (PI) 5.1.3.134.2 monitoring response on ship's 9 GHz radar;
- (PI) 5.1.3.134.3 checking the battery expiry date;
- (PI) 5.1.3.135 examining the test equipment and spares carried to ensure carriage is adequate in accordance with the sea areas in which the ship trades and the declared options for maintaining availability of the functional requirements (SOLAS 74/88 reg.IV/15);
- (PI) 5.1.3.136 checking the distress panel installed at the conning position; or, where applicable, checking an additional EPIRB is placed near the conning position (SOLAS 74/88 reg.IV/6);
- (PI) 5.1.3.137 checking that positional information is provided continuously and automatically to all communications equipment included in the initial distress alert (SOLAS 74/88 reg.IV/6);
- (PI) 5.1.3.138 checking the distress alarm panel installed at the conning position and its visual and aural indications of received distress alerts (SOLAS 74/88 reg.IV/6);
- (PI) 5.1.3.139 checking the provision and operation of the means for two-way on-scene communication for search and rescue purposes and its operation on 121.5 MHz and 123.1 MHz from the position from which the ship is normally navigated (SOLAS 74/88 reg.IV/7);
- (PI) 5.1.3.140 confirming that the ship's identification number is permanently marked (SOLAS 74/02 reg.XI-1/3);
- (PI) 5.1.3.141 checking the provision and operation of the automatic identification system (SOLAS 74/00/04 reg.V/19);
- (PI) 5.1.3.142 for passenger ships carrying more than 36 passengers constructed on or after 1 July 2010, checking the provision of a suitably located means for fully recharging breathing air cylinders, free from contamination (SOLAS 74/08 reg.II-2/10.10.2.6);

- (PI) 5.1.3.143 confirming that installed materials do not contain asbestos* (SOLAS 74/09 reg.II-1/3-5);
- (PI) 5.1.3.144 confirming the provision of means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders (SOLAS 74/08 reg.II-1/3-9);
- (PI) 5.1.3.145 for passenger ships constructed on or after 1 July 2010 and having a length of 120 m or more or having three or more main vertical zones, checking the designation of safe areas (SOLAS 74/06 reg.II-2/21);
- (PI) 5.1.3.146 for passenger ships constructed on or after 1 July 2010, checking the provision of a safety centre (SOLAS 74 reg.II-2/23) and associated ventilation requirements (SOLAS 74/06 reg.II-2/8.2); and
- (PI) 5.1.3.147 confirming, where applicable, that an appropriate portable atmosphere testing instrument or instruments[†] is on board, and that suitable means are provided for the calibration of all such instruments;[‡] and checking the appropriateness of the testing and calibration (SOLAS 74/14 reg.XI-1/7).
- (PI) 5.1.4 For the hull, machinery and equipment of passenger ships using natural gas as fuel the additional requirements for the survey during construction and after installation should consist of:
- (PI) 5.1.4.1 confirming that the arrangement of the accommodation, fuel containment systems, service and machinery spaces are in accordance with the approved plans and control, monitoring and safety systems are satisfactory (IGF Code chs.4, 5, 6, 8, 9 and 15);
- (PI) 5.1.4.2 confirming the inert gas system is satisfactory (IGF Code ch.6);
- (PI) 5.1.4.3 confirming the ventilation arrangements are satisfactory (IGF Code chs.12 and 13);
- (PI) 5.1.4.4 confirming that the fuel containment systems are arranged and installed in accordance with the approved plans, internally examining the fuel containments and ensuring that the appropriate testing is carried out (IGF Code chs.6 and 16);
- (PI) 5.1.4.5 examining the electrical installations with particular reference to the certified safe type equipment fitted in gas-dangerous spaces and zones (IGF Code chs.12 and 14);
- (PI) 5.1.4.6 examining the arrangements for the fire protection and fire extinction (IGF Code ch.11);

* Refer to the *Unified interpretation of SOLAS regulation II-1/3-5* (MSC.1/Circ.1379 and MSC.1/Circ.1426/Rev.1).

† Refer to the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7* (MSC.1/Circ.1477).

‡ Refer to the *Unified interpretations of SOLAS regulation XIV/2.2 and paragraphs 1.3.2 and 1.3.6, part I-A of the Polar Code* (MSC.1/Circ.1562)

- (PI) 5.1.4.7 examining the fire pump capacity and working pressure in relation to the water spray system, if the water spray system is part of the fire main system (IGF Code para.11.4.1);
- (PI) 5.1.4.8 examining the isolating valves of the fire main, when the fuel storage tank or tanks are located on the open deck (IGF Code para.11.4.2);
- (PI) 5.1.4.9 examining the water spray system arrangement for fuel storage tanks(s) on open deck including remote operation (IGF Code para.11.5);
- (PI) 5.1.4.10 examining the fixed dry chemical powder fire-extinguishing system for the bunkering station area (IGF Code para.11.6.1);
- (PI) 5.1.4.11 examining the portable dry powder extinguisher (IGF Code para.11.6.2);
- (PI) 5.1.4.12 examining the fixed fire detection and alarm system (IGF Code section 11.7);
- (PI) 5.1.4.13 examining the machinery installations (IGF Code ch.10);
- (PI) 5.1.4.13.1 ventilation systems;
- (PI) 5.1.4.13.2 dual-fuel engines;
- (PI) 5.1.4.13.3 gas-only engines;
- (PI) 5.1.4.13.4 multi-fuel engines;
- (PI) 5.1.4.13.5 main and auxiliary boilers;
- (PI) 5.1.4.13.6 gas turbines.
- (PI) 5.1.5 For the hull, machinery and equipment of passenger ships the check that the required documentation has been placed on board should consist of:
 - (PI) 5.1.5.1 confirming that the stability information and damage control plans and damage control booklets have been provided (SOLAS 74/88 regs.II-1/22 and 23) (SOLAS 74/06 regs.II-1/5-1 and 19);
 - (PI) 5.1.5.2 checking, where applicable, that the noise survey report as required by the Code on Noise Levels on Board Ships is available on board (SOLAS 74/12 reg.II-1/3-12);
 - (PI) 5.1.5.3 checking the provision of a ship-specific emergency towing procedure (SOLAS 74/08 reg.II-1/3-4);
 - (PI) 5.1.5.4 confirming that the manoeuvring booklet has been provided and that the manoeuvring information has been displayed on the navigating bridge (SOLAS 74/88 reg.II-1/28);
 - (PI) 5.1.5.5 confirming that documented operating procedures for closing and securing the openings in special category spaces and ro-ro spaces are available on board (SOLAS 74/06 reg.II-1/23);

- (PI) 5.1.5.6 where applicable, confirming that the approved Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units is on board (SOLAS 74/98/02 reg.VI/5.6);
- (PI) 5.1.5.7 confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board (SOLAS 74/00/06/15 regs.II-1/55, II-2/17 and III/38 and IGF Code ch.2);
- (PI) 5.1.5.8 confirming that the fire control plans are permanently exhibited or, alternatively, that emergency booklets have been provided to each officer and a duplicate of the plans or the emergency booklet are available in a prominently marked enclosure external to the ship's deckhouse (SOLAS 74/00 regs.II-2/15.2.4 and 15.3.2) (SOLAS 74/88 reg.II-2/20); and that the fire control plan is in the language required by the Administration;
- (PI) 5.1.5.9 confirming that the maintenance plans have been provided (SOLAS 74/88 regs.II-2/14.2.2 and 14.3);
- (PI) 5.1.5.10 confirming that the training manuals and the fire safety operational booklets have been provided (SOLAS 74/88 regs.II-2/15.2.3 and 16.2);
- (PI) 5.1.5.11 confirming, when appropriate, that the ship is provided with a document indicating compliance with the special requirements for carrying dangerous goods (SOLAS 74/00/08 reg.II-2/19.4) (SOLAS 74/88 regs.II-2/41 and 54.3);
- (PI) 5.1.5.12 confirming that emergency instructions are available for each person on board, that the muster list is posted in conspicuous places, and that they are in a language understood by the persons on board (SOLAS 74/00 regs.III/8 and 37);
- (PI) 5.1.5.13 confirming that ship-specific plans and procedures for recovery of persons from the water have been provided (SOLAS 74/12 reg.III/17-1);
- (PI) 5.1.5.14 confirming that the training manual for the life-saving appliances has been provided and is available in the working language of the ship (SOLAS 74/00/04 reg.III/35);
- (PI) 5.1.5.15 confirming that the checklist and instructions for MES, where appropriate, and onboard maintenance of the life-saving appliances have been provided (SOLAS 74/00 reg.III/36);
- (PI) 5.1.5.16 confirming that a table or curve of residual deviations for the magnetic compass have been provided, and that a diagram of the radar installations shadow sectors is displayed (SOLAS 74/00 reg.V/19);
- (PI) 5.1.5.17 checking that operational and, where appropriate, maintenance manuals for all navigational equipment are provided (SOLAS 74/00 regs.V/16 and 19);
- (PI) 5.1.5.18 checking that the charts and nautical publications necessary for the intended voyage are available and have been updated (SOLAS 74/00 regs.V/19 and 27);

- (PI) 5.1.5.19 checking that the International Code of Signals is available where the ship is required to carry a radio installation (SOLAS 74/88 reg.V/21);
- (PI) 5.1.5.20 checking that records are provided identifying any pilot ladders placed into service (SOLAS 74/10 reg.V/23.2.4);
- (PI) 5.1.5.21 confirming that a list showing the operational limitations imposed on the ship is kept on board (SOLAS 74/00 reg.V/30);
- (PI) 5.1.5.22 checking that an illustrated table describing the life-saving signals to be used by ships, aircraft or persons in distress is available (SOLAS 74/00 reg.V/29);
- (PI) 5.1.5.23 checking the carriage of operating manuals for all equipment (SOLAS 74/88 reg.IV/15);
- (PI) 5.1.5.24 checking the carriage of service manuals for all equipment when at-sea maintenance is the declared option (SOLAS 74/88 reg.IV/15);
- (PI) 5.1.5.25 checking for a valid radio licence issued by the flag Administration (ITU RR Article 24);
- (PI) 5.1.5.26 checking the radio operators' certificates of competence (ITU RR Article 55);
- (PI) 5.1.5.27 checking the emission on operational frequencies, coding and registration on the 406 MHz signal without transmission of a distress call to the satellite;
- (PI) 5.1.5.28 checking the radio log (SOLAS 74/88 reg.IV/19 in force prior to 1 February 1992 and ITU RR App.11);
- (PI) 5.1.5.29 checking the carriage of up-to-date ITU publications (ITU RR App.11);
- (PI) 5.1.5.30 checking that the EPIRB has been subject to maintenance at intervals not exceeding five years at an approved shore-based maintenance facility;
- (PI) 5.1.5.31 if possible, checking the emission on operational frequencies, coding and registration on the 121.5 MHz homing signal without transmission of the distress call to satellite system;
- (PI) 5.1.5.32 confirming that a continuous synopsis record is provided (SOLAS 74/02 reg.XI-1/5); and
- (PI) 5.1.5.33 checking that arrangements are provided to maintain records of navigational activities and daily reporting (SOLAS 74/00/03 reg.V/28).
- (PI) 5.1.6 For the hull, machinery and equipment of passenger ships the completion of the initial survey should consist of:
- (PI) 5.1.6.1 after a satisfactory survey, issuing the Passenger Ship Safety Certificate and its associated Record of Equipment (Form P).

- (PR) **5.2** **Renewal surveys** – see part "General", section 4.5
- (PR) 5.2.1 For the hull, machinery and equipment of passenger ships the examination of current certificates and other records should consist of:
- (PR) 5.2.1.1 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (PR) 5.2.1.2 checking, as appropriate, the validity of the Polar Ship Certificate;
- (PR) 5.2.1.3 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (PR) 5.2.1.4 checking the validity of the International Ship Security Certificate;
- (PR) 5.2.1.5 checking the validity of the International Oil Pollution Prevention Certificate;
- (PR) 5.2.1.6 checking the certificates of class, if the ship is classed with a classification society;
- (PR) 5.2.1.7 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (PR) 5.2.1.8 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (PR) 5.2.1.9 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (PR) 5.2.1.10 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (PR) 5.2.1.11 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (PR) 5.2.1.12 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (PR) 5.2.1.13 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (PR) 5.2.1.14 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (PR) 5.2.1.15 checking that the master, officers and ratings are certificated as required by the STCW Convention;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (PR) 5.2.1.16 checking, where applicable, that the noise survey report as required by the Code on Noise Levels on Board Ships is available on board (SOLAS 74/12 reg.II-1/3-12);
- (PR) 5.2.1.17 confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board (SOLAS 74/00/06/15 regs.II-1/55, II-2/17 and III/38 and IGF Code ch.2);
- (PR) 5.2.1.18 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (PR) 5.2.1.19 checking that the routine surveys of the boilers and other pressure vessels, as determined by the Administration, have been carried out as required and that safety devices, such as the boiler safety valves, have been tested;
- (PR) 5.2.1.20 checking that, as appropriate, the hull and machinery have been presented for survey in accordance with the continuous survey scheme approved by the Administration or a classification society;
- (PR) 5.2.1.21 confirming that the opening and the closing and locking of sidescuttles positioned below the margin line or the bulkhead deck, as applicable, are being recorded in the logbook (SOLAS 74/88 reg.II-1/17), (SOLAS 74/06 reg.II-1/15);
- (PR) 5.2.1.22 confirming that the closure of the cargo loading doors and the opening and closing of any doors at sea required for the operation of the ship or the embarking and disembarking of passengers are being recorded in the logbook (SOLAS 74/88 reg.II-1/20-1) (SOLAS 74/06 reg.II-1/22);
- (PR) 5.2.1.23 confirming that the stability information and damage control plans and damage control booklets are readily available (SOLAS 74/88 regs.II-1/22 and 23) (SOLAS 74/06 regs.II-1/5-1 and 19);
- (PR) 5.2.1.24 confirming from the logbook entries that the openings required to be closed at sea are being kept closed and that the required drills and inspections of watertight doors, etc., are being carried out (SOLAS 74/88 regs.II-1/24 and 25) (SOLAS 74/06 regs.II-1/21 and 22);
- (PR) 5.2.1.25 confirming that documented operating procedures for closing and securing the openings in special category spaces and ro-ro spaces are available on board (SOLAS 74/06 reg.II-1/23);
- (PR) 5.2.1.26 confirming that the manoeuvring booklet is readily available and that the manoeuvring information is displayed on the navigating bridge (SOLAS 74/88 reg.II-1/28);
- (PR) 5.2.1.27 confirming that the fire control plans are permanently exhibited or, alternatively, that emergency booklets have been provided and a duplicate of the plans or the emergency booklet is available in a prominently marked enclosure external to the ship's deckhouse (SOLAS 74/88 reg.II-2/20);
- (PR) 5.2.1.28 confirming that the maintenance plans have been provided (SOLAS 74/00 regs.II-2/14.2.2 and 14.3);

- (PR) 5.2.1.29 confirming that the training manuals and the fire safety operational booklets have been provided (SOLAS 74/00 regs.II-2/15.2.3 and 16.2);
- (PR) 5.2.1.30 checking whether any fire has occurred on board necessitating the operation of the fixed fire-extinguishing systems or the portable fire extinguishers since the last survey and the entries into the ship's logbook;
- (PR) 5.2.1.31 checking, when appropriate, that the ship is provided with a document indicating compliance with the special requirements for carrying dangerous goods (SOLAS 74/00/08 reg.II-2/19.4) (SOLAS 74/88 reg.II-2/54.3);
- (PR) 5.2.1.32 confirming that ship-specific plans and procedures for recovery of persons from the water have been provided (SOLAS 74/12 reg.III/17-1);
- (PR) 5.2.1.33 confirming, when appropriate, that there is a special list, manifest or stowage plan for the carriage of dangerous goods (SOLAS 74/88 reg.VII/5);
- (PR) 5.2.1.34 confirming that emergency instructions are available for each person on board, that the muster list is posted in conspicuous places, and that they are in a language understood by the persons on board (SOLAS 74/00 regs.III/8 and 37);
- (PR) 5.2.1.35 confirming that, if applicable, a factual statement issued by the manufacturer of the lifeboat release mechanism is available, confirming the successful overhaul examination of a mechanism compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, or, alternatively, that a statement of acceptance of the installation of a replacement release and retrieval system to an existing lifeboat is available (SOLAS 74/11 reg.III/1.5; LSA Code section 4.4.7.6);
- (PR) 5.2.1.36 checking that logbook entries are being made (SOLAS 74/00/13 regs.III/19 and 20), in particular:
 - (PR) 5.2.1.36.1 the date when the last full muster of the passengers and crew for boat and fire drill took place, and the date when the last enclosed space entry and rescue drills took place;
 - (PR) 5.2.1.36.2 the records indicating that on voyages where passengers are scheduled to be on board for more than 24 h, musters of newly embarked passengers have taken place prior to or immediately upon departure;
 - (PR) 5.2.1.36.3 the records indicating that the lifeboat equipment was examined at that time and found to be complete;
 - (PR) 5.2.1.36.4 the last occasion when the lifeboats were swung out and when each one was lowered into the water;
 - (PR) 5.2.1.36.5 the records indicating that crew members have received the appropriate onboard training;

- (PR) 5.2.1.37 confirming that the training manual and training aids for the life-saving appliances are available on board in the working language of the ship (SOLAS 74/00/04 reg.III/35);
- (PR) 5.2.1.38 confirming that the instructions for onboard maintenance of the life-saving appliances is on board (SOLAS 74/00 reg.III/36);
- (PR) 5.2.1.39 checking by the logbook entries that the testing and the emergency drills of the steering gear have been carried out (SOLAS 74/00 reg.V/26);
- (PR) 5.2.1.40 confirming that a table or curve of residual deviations for the magnetic compass is available and that a diagram of the radar installations shadow sectors is displayed (SOLAS 74/00 reg.V/19);
- (PR) 5.2.1.41 checking that operational and, where appropriate, maintenance manuals for all navigational equipment are provided (SOLAS 74/00 reg.V/16);
- (PR) 5.2.1.42 checking that the charts and nautical publications necessary for the intended voyage are available and have been updated (SOLAS 74/00 reg.V/27);
- (PR) 5.2.1.43 checking that the compass deviation book is properly maintained (SOLAS 74/00 reg.V/19);
- (PR) 5.2.1.44 checking that records are maintained identifying any pilot ladders placed into service and any repair effected (SOLAS 74/10 reg.V/23.2.4);
- (PR) 5.2.1.45 confirming that a list showing the operational limitations imposed on the ship is kept on board (SOLAS 74/00 reg.V/30);
- (PR) 5.2.1.46 checking that an illustrated table describing the life-saving signals to be used by ships, aircraft or persons in distress is available (SOLAS 74/00 reg.V/29);
- (PR) 5.2.1.47 confirming the provisions of (PI) 5.1.5.17 to (PI) 5.1.5.23 except (PI) 5.1.5.20;
- (PR) 5.2.1.48 confirming that a record has been kept in the period since the last survey to the satisfaction of the Administration and as required by the Radio Regulations (SOLAS 74/88 reg.IV/17);
- (PR) 5.2.1.49 checking documentary evidence that the actual capacity of the battery has been proved in port within the last 12 months (SOLAS 74/88 reg.IV/13);
- (PR) 5.2.1.50 if applicable, checking that a list of all limitations on the operation of a passenger ship is kept on board and updated;
- (PR) 5.2.1.51 where applicable, confirming that the approved Cargo Securing Manual for ships carrying cargoes other than solid and liquid bulk cargoes, cargo units and cargo transport units is on board (SOLAS 74/98/02 reg.VI/5.6);
- (PR) 5.2.1.52 confirming that a continuous synopsis record is provided (SOLAS 74/02 reg.XI-1/5);

- (PR) 5.2.1.53 checking that the annual test has been carried out for the Satellite EPIRB and, if applicable, that shore-based maintenance has been carried out at intervals not exceeding five years (SOLAS 74/04 reg.IV/15);
- (PR) 5.2.1.54 checking that arrangements are provided to maintain records of navigational activities and daily reporting (SOLAS 74/00/03 reg.V/28); and
- (PR) 5.2.1.55 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (PR) 5.2.2 For the hull, machinery and equipment of passenger ships the renewal survey should consist of:
 - (PR) 5.2.2.1 examining the outside of the ship's bottom, including the bottom and bow plating, keel, bilge keels, stem, stern frame, rudder, sea chests and strainers, noting the clearance measured in the rudder bearings, examining the propeller and shaft seals, as far as practicable, and noting the clearance measured in the propeller shafts (SOLAS 74/88 reg.I/7(b)(ii));
 - (PR) 5.2.2.2 examining the arrangements for subdivision, including the ship's stability in the damaged condition, and checking the subdivision load lines (SOLAS 74/88 regs.II-1/4 to 8, 13 and 16) (SOLAS 74/06/12 regs.II-1/8, 8-1, 14 and 18);
 - (PR) 5.2.2.3 confirming the provision of operational information to the master for safe return to port after a flooding casualty by onboard stability computer or shore-based support (SOLAS 74/12 reg.II-1/8-1);
 - (PR) 5.2.2.4 checking the ballasting arrangements (SOLAS 74/88 reg.II-1/9) (SOLAS 74/06 reg.II-1/20);
 - (PR) 5.2.2.5 confirming that dedicated seawater ballast tanks have been coated in accordance with resolution MSC.215(82), as amended, when appropriate (SOLAS 74/00/06 reg.II-1/3-2);
 - (PR) 5.2.2.6 confirming when appropriate that the maintenance of the protective coating is included in the overall ship's maintenance system (SOLAS 74/00/06 reg.II-1/3-2);
 - (PR) 5.2.2.7 examining the collision and other watertight bulkheads required for the ship's subdivision (SOLAS 74/88 regs.II-1/10, 14, 15 and 18) (SOLAS 74/06 regs.II-1/10, 11, 12, 13 and 16);
 - (PR) 5.2.2.8 confirming that the watertight integrity has been maintained where pipes, scuppers, etc., pass through subdivision watertight bulkheads (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
 - (PR) 5.2.2.9 confirming that a diagram is provided on the navigating bridge showing the location of the watertight doors together with indicators showing whether the doors are open or closed (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);

- (PR) 5.2.2.10 testing the operation of the watertight doors both from the navigating bridge in the event of an emergency and locally at the door itself (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13) and, in particular, that they are:
 - (PR) 5.2.2.10.1 operable locally from each side of the bulkhead;
 - (PR) 5.2.2.10.2 provided with devices giving an indication of whether the door is open or closed at all remote operating positions;
 - (PR) 5.2.2.10.3 provided with an audible alarm that is distinct from any other alarm in the area and, when appropriate, an intermittent visual signal;
 - (PR) 5.2.2.10.4 provided with control handles on each side of the bulkhead so that a person may hold both handles in the open position and pass safely through the watertight door without accidentally setting the power closing mechanism into operation;
- (PR) 5.2.2.11 testing the remote hand-operation to close the power-operated sliding watertight door from an accessible position above the bulkhead deck (SOLAS 74/88/14 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PR) 5.2.2.12 confirming that the watertight doors and their indicating devices are operable in the event of a failure of the main and emergency sources of power (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PR) 5.2.2.13 checking, when appropriate, any watertight doors that are not required to be closed remotely, fitted in watertight bulkheads dividing 'tween deck spaces, and confirming that a notice is affixed concerning their closure (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PR) 5.2.2.14 confirming that a notice is affixed to any portable plates on bulkheads in machinery spaces concerning their closure and, if appropriate, testing any power-operated watertight door fitted in lieu (SOLAS 74/88 reg.II-1/15) (SOLAS 74/06 reg.II-1/13);
- (PR) 5.2.2.15 examining the arrangements for closing sidescuttles and their deadlights, also scuppers, sanitary discharges and similar openings and other inlets and discharges in the shell plating below the margin line (SOLAS 74/88 reg.II-1/17);
- (PR) 5.2.2.16 examining the arrangements for closing sidescuttles and their deadlights, also scuppers, sanitary discharges and similar openings and other inlets and discharges in the shell plating below the bulkhead deck (SOLAS 74/06 reg.II-1/15);
- (PR) 5.2.2.17 confirming that valves for closing the main and auxiliary sea inlets and discharges in the machinery spaces are readily accessible and indicators showing the status of the valves are provided (SOLAS 74/88 reg.II-1/17) (SOLAS 74/06 reg.II-1/15);
- (PR) 5.2.2.18 confirming that gangway, cargo and coaling ports fitted below the margin line may be effectively closed and that the inboard ends of any ash or rubbish chutes are fitted with an effective cover (SOLAS 74/88 reg.II-1/17);

- (PR) 5.2.2.19 confirming that gangway, cargo and fuelling ports fitted below the bulkhead deck may be effectively closed and that the inboard ends of any ash or rubbish chutes are fitted with an effective cover (SOLAS 74/06 reg.II-1/15);
- (PR) 5.2.2.20 examining the arrangements to maintain the watertight integrity above the margin line or the bulkhead deck as applicable (SOLAS 74/88 reg.II-1/20) (SOLAS 74/06 reg.II-1/17);
- (PR) 5.2.2.21 examining the arrangements for the bilge pumping and confirming that each bilge pump and the bilge pumping system provided for each watertight compartment are working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
- (PR) 5.2.2.22 confirming that the drainage system of enclosed cargo spaces situated on the freeboard deck is working efficiently (SOLAS 74/88 reg.II-1/21) (SOLAS 74/05 reg.II-1/35-1);
- (PR) 5.2.2.23 examining visually the drainage facilities for blockage or other damage and confirming the provision of means to prevent blockage of drainage arrangements, for closed vehicle and ro-ro spaces and special category spaces where fixed pressure water-spraying systems are used (SOLAS 74/08 reg.II-2/20.6.1.5);
- (PR) 5.2.2.24 examining, when appropriate, the means of indicating the status of any bow doors and any leakage therefrom (SOLAS 74/88 reg.II-1/23-2);
- (PR) 5.2.2.25 confirming, that the arrangement for monitoring special category spaces or ro-ro spaces, when fitted, is satisfactory (SOLAS 74/06 reg.II-1/23);
- (PR) 5.2.2.26 confirming that the machinery, boilers and other pressure vessels, associated piping systems and fittings are being maintained so as to reduce to a minimum any danger to persons on board, due regard being given to moving parts, hot surfaces and other hazards (SOLAS 74/88 reg.II-1/26);
- (PR) 5.2.2.27 confirming that normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative (SOLAS 74/88 reg.II-1/26);
- (PR) 5.2.2.28 confirming that means are provided so that the machinery can be brought into operation from the dead ship condition without external aid (SOLAS 74/88 reg.II-1/26);
- (PR) 5.2.2.29 examining, where practicable, the means provided to protect against overpressure in the parts of main, auxiliary and other machinery that is subject to internal pressure and may be subject to dangerous overpressure (SOLAS 74/88 reg.II-1/27);
- (PR) 5.2.2.30 examining, when appropriate, the crankcase explosion relief devices fitted to internal combustion engines and confirming that they are arranged so as to minimize the possibility of injury to personnel (SOLAS 74/88 reg.II-1/27);
- (PR) 5.2.2.31 confirming that the automatic shut-off arrangements fitted to the main turbine propulsion machinery and, where applicable, main internal combustion propulsion machinery and auxiliary machinery are being properly maintained (SOLAS 74/88 reg.II-1/27);

- (PR) 5.2.2.32 confirming, as far as practicable, the ability of the machinery to reverse the direction of the thrust of the propeller in sufficient time, including the effectiveness of any supplementary means of manoeuvring or stopping the ship (SOLAS 74/88 reg.II-1/28);
- (PR) 5.2.2.33 confirming that the main and auxiliary steering gear are being properly maintained, are arranged so that the failure of one does not render the other inoperative and that the auxiliary steering gear is capable of being brought speedily into action in an emergency* (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.34 confirming that, where appropriate, essential components of the steering gear are permanently lubricated or provided with lubrication fittings (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.35 confirming that relief valves fitted to the steering gear hydraulic system which can be isolated and in which pressure can be generated from the power source or from external forces are being maintained and are set to a pressure not exceeding the design pressure (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.36 confirming that the main or auxiliary steering gear power units restart automatically when power is restored after a power failure, that they are capable of being brought into operation from a position on the navigating bridge and that, in the event of a power failure to any one of the steering gear power units, an audible and visual alarm is given on the navigating bridge (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.37 confirming that the control systems for the main steering gear from both the navigating bridge and the steering gear compartment are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.38 confirming that, where the main steering gear comprises two or more identical power units and an auxiliary steering gear is not fitted, the two independent control systems from the navigating bridge are operating satisfactorily (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.39 confirming that the control system for the auxiliary steering gear, in the steering gear compartment and, if this gear is power-operated, from the navigating bridge, are operating satisfactorily and that the latter is independent of the control system for the main steering gear (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.40 confirming that an audible and visual alarm is given on the navigating bridge in the event of a failure of electrical power supply (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.41 confirming that the means of communication between the bridge and the steering gear is operating satisfactorily and that, with ships having emergency steering positions, a telephone or other means of communication for relaying heading information and supplying visual compass readings to the emergency steering position is provided (SOLAS 74/14 regs.II-1/29 and SOLAS 74/00 reg.V/19);

* For ships fitted with alternative propulsion and steering arrangements other than traditional arrangements, such as but not limited to azimuthing propulsors or water jet propulsion systems, refer to the *Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30* (MSC.1/Circ.1416/Rev.1).

- (PR) 5.2.2.42 confirming that the angular position of the rudder is indicated independently of the steering control system on the navigating bridge if the main steering gear is power-operated and that this angular position is given in the steering gear compartment (SOLAS 74/14 reg.II 1/29 and SOLAS 74/00 reg.II-1/29 and reg.V/19);
- (PR) 5.2.2.43 confirming that with a hydraulic power-operated steering gear the audible and visual low-level alarms on the navigating bridge and in the machinery space for each hydraulic fluid reservoir are operating satisfactorily and that at least one power-actuating system including the reservoir can be recharged from a position within the steering gear compartment by means of a fixed storage tank to which a contents gauge is fitted with fixed piping (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.44 confirming that the steering gear compartment is readily accessible and is provided with suitable arrangements to ensure working access to steering gear machinery and controls under safe conditions (SOLAS 74/88/14 reg.II-1/29);
- (PR) 5.2.2.45 confirming that, with electric and electro-hydraulic steering gear, the means for indicating on the navigating bridge and at a main machinery control position that the motors are running and, as far as practicable, that the overload alarm and alarm for the loss of a phase in a three-phase supply located at the main machinery control position are operating satisfactorily (SOLAS 74/88 reg.II-1/30);
- (PR) 5.2.2.46 confirming that the effective means of operation and control of the main and auxiliary machinery essential for the propulsion and the safety of the ship are being maintained, including, when appropriate, any means for remotely controlling the propulsion machinery from the navigating bridge (including the control, monitoring, reporting, alert and safety actions) (SOLAS 74/88/00/02 reg.II-1/31);
- (PR) 5.2.2.47 confirming that arrangements for operating main and other machinery from a machinery control room are satisfactory (SOLAS 74/88 reg.II-1/31);
- (PR) 5.2.2.48 confirming that the means provided for manually overriding automatic controls are being maintained and that a failure does not prevent the use of the manual override (SOLAS 74/88 reg.II-1/31);
- (PR) 5.2.2.49 confirming that the appropriate safety features fitted to the oil-fired and exhaust gas boilers, unfired steam generators, steam pipe systems and air pressure systems are being maintained (SOLAS 74/88 regs.II-I/32, 33 and 34);
- (PR) 5.2.2.50 confirming the operation of the ventilation for the machinery spaces (SOLAS 74/88 reg.II-I/35);
- (PR) 5.2.2.51 when appropriate, confirming that the measures to prevent noise in machinery spaces are effective (SOLAS 74/88 reg.II-I/36 and SOLAS 74/12 reg.II-1/3-12.2); or confirming that the ship was constructed to reduce onboard noise and to protect personnel from noise in accordance with the Code on Noise Levels on Board Ships, adopted by resolution MSC.337(91), as amended (SOLAS 74/12 reg.II-1/3-12);

- (PR) 5.2.2.52 confirming that the engine-room telegraph giving visual indication of the orders and answers both in the machinery space and on the navigation bridge is operating satisfactorily (SOLAS 74/88 reg.II-1/37);
- (PR) 5.2.2.53 confirming that the second means of communication between the navigation bridge and machinery space is also operating satisfactorily, including any appropriate means provided to any other positions from which the engines are controlled (SOLAS 74/88 reg.II-1/37);
- (PR) 5.2.2.54 confirming that the engineer's alarm is clearly audible in the engineers' accommodation (SOLAS 74/88 reg.II-1/38);
- (PR) 5.2.2.55 confirming that precautions taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces are efficient;
- (PR) 5.2.2.56 confirming that the means of ascertaining the amount of oil contained in any oil tank are in satisfactory working condition (SOLAS 74/88 reg.II-2/15) (SOLAS 74/00 reg.II-2/4.2.2.3.5);
- (PR) 5.2.2.57 confirming that the devices provided to prevent overpressure in any oil tank or in any part of the oil system, including the filling pipes, are in satisfactory working condition (SOLAS 74/88 reg.II-2/15) (SOLAS 74/00 reg.II-2/4.2.2.4);
- (PR) 5.2.2.58 confirming that the electrical installations, including the main source of power and lighting systems, are being maintained (SOLAS 74/88 regs.II-1/40 and 41);
- (PR) 5.2.2.59 confirming that the self-contained emergency source of electrical power and its associated systems are operating satisfactorily (SOLAS 74/88 reg.II-1/42);
- (PR) 5.2.2.60 confirming that the starting arrangements of each emergency generating set are satisfactory (SOLAS 74/88 reg.II-1/44);
- (PR) 5.2.2.61 checking, when appropriate, the disposition of and testing the supplementary emergency lighting (SOLAS 74/88 reg.II-1/42-1);
- (PR) 5.2.2.62 for passenger ships constructed on or after 1 July 2010, checking the provision of supplementary lighting in all cabins, and checking that such lighting automatically illuminates and remains on for a minimum of 30 min when power to the normal cabin lighting is lost (SOLAS 74/06 reg.II-1/41.6);
- (PR) 5.2.2.63 confirming that precautions provided against shock, fire and other hazards of electrical origin are being maintained (SOLAS 74/88 reg.II-1/45);
- (PR) 5.2.2.64 confirming, when appropriate, that the arrangements for the machinery spaces being periodically unattended are satisfactory (SOLAS 74/88 reg.II-1/54);
- (PR) 5.2.2.65 examining, where applicable, the alternative design and arrangements for machinery or electrical installations, low-flashpoint fuel storage and distribution systems, fire safety, or life-saving appliances and arrangements, in accordance with the test, inspection and maintenance requirements, if any, specified in the approved documentation (SOLAS 74/00/06/15 regs.II-1/55, II-2/17 and III/38 and IGF Code ch.2);

- (PR) 5.2.2.66 examining the fire pumps and fire main and the disposition of the hydrants, hoses and nozzles and the international shore connection and checking that each fire pump, including the emergency fire pump, can be operated separately so that two jets of water are produced simultaneously from different hydrants at any part of the ship while the required pressure is maintained in the fire main (SOLAS 74/00/14 reg.II-2/10.2; FSS Code chs.2 and 12) (SOLAS 74/88 regs.II-2/4 and 19);
- (PR) 5.2.2.67 for passenger ships designed to carry containers on or above the weather deck, as applicable, examining the water mist lance (SOLAS 74/00/14 reg.II-2/10.7.3);
- (PR) 5.2.2.68 examining the provision and randomly examining the condition of the portable and non-portable fire extinguishers (SOLAS 74/00 reg.II-2/10.3; FSS Code ch.4) (SOLAS 74/88 reg.II-2/6);
- (PR) 5.2.2.69 examining the fixed fire-extinguishing system for machinery, cargo, special category and vehicle spaces and confirming that its means of operation are clearly marked (SOLAS 74/00/12/14 regs.II-2/10.4, 10.5, 10.7.1, 10.7.2 and 20.6.1; FSS Code chs.5 to 7) (SOLAS 74/88 regs.II-2/5, 7, 9, 10 and 53);
- (PR) 5.2.2.70 examining the special arrangements in the machinery spaces and confirming, as far as practicable and as appropriate, the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of the funnel and ventilation openings, the closure of power-operated and other doors, the stopping of ventilation and boiler forced and induced draught fans and the stopping of oil fuel and other pumps that discharge flammable liquids (SOLAS 74/00 regs.II-2/5.2, 8.3 and 9.5) (SOLAS 74/88 reg.II-2/11);
- (PR) 5.2.2.71 checking that fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces, where applicable, are provided with two separate controls, one for opening of the gas piping and one for discharging the gas from the storage container, each of them located in a release box clearly identified for the particular space (SOLAS 74/08 reg.II-2/10.4, FSS Code ch.5.2.2.2);
- (PR) 5.2.2.72 examining the fire-extinguishing arrangements in control stations, accommodation and service spaces (SOLAS 74/00 reg.II-2/10.6.1; FSS Code ch.8) (SOLAS 74/88 reg.II-2/36);
- (PR) 5.2.2.73 examining, when applicable, the fire-extinguishing arrangements in cabin balconies (SOLAS 74/00 reg.II-2/10.6.1);
- (PR) 5.2.2.74 examining the provision of fire-extinguishing systems for the spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces (SOLAS 74/00 regs.II-2/10.6.3 and 10.6.4; FSS Code chs.5, 6 and 7) (SOLAS 74/88 reg.II-2/15.2.5));
- (PR) 5.2.2.75 examining the arrangements for oil fuel, lubricating oil and other flammable oils and testing the remote closing of valves for oil fuel, lubricating oil and other flammable oils and the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils (SOLAS 74/00 reg.II-2/4.2) (SOLAS 74/88 reg.II-2/15);

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- (PR) 5.2.2.76 examining and testing, as far as practicable, any fire detection and fire alarm arrangements in machinery spaces, including enclosed spaces containing incinerators, if applicable, accommodation and service spaces and control spaces (SOLAS 74/00/10 reg.II-2/7 (except 7.5.5, 7.6 and 7.9); FSS Code chs.8 and 9) (SOLAS 74/88 regs.II-2/11, 12, 13, 13-1, 14, 36 and 41);
- (PR) 5.2.2.76.1 examining and testing, where applicable, any fire detection and fire alarm arrangements on cabin balconies. (SOLAS 74/00 reg.II-2/7.10);
- (PR) 5.2.2.76.2 for passenger ships constructed on or after 1 July 2010, confirming the smoke detectors in cabins, when activated, are emitting, or causing to emit, an audible alarm within the space where they are located (SOLAS 74/06 regs.II-2/7.5.2 and 7.5.3.1);
- (PR) 5.2.2.76.3 for passenger ships constructed on or after 1 July 2010, confirming detectors and manually operated call points of a fixed fire detection and fire alarm system can be remotely and individually identified (SOLAS 74/06 reg.II-2/7.2.4);
- (PR) 5.2.2.77 confirming that the fire-fighters' outfits including their self-contained compressed air breathing apparatus, and the emergency escape breathing devices (EEBDs) are complete and in good condition and that the cylinders, including the spare cylinders, of the self-contained breathing apparatus, are suitably charged, and that onboard means of recharging breathing apparatus cylinders used during drills or a suitable number of spare cylinders to replace those used are provided, and that two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe is provided (SOLAS 74/00/12 regs.II-2/10.10, 13.3.4, 13.4.3 and 15.2.2; FSS Code ch.3) (SOLAS 74/88 reg.II-2/17);
- (PR) 5.2.2.78 checking the operational readiness and maintenance of fire-fighting systems (SOLAS 74/00 reg.II-2/14) (SOLAS 74/88/91 reg.II- 2/21);
- (PR) 5.2.2.79 confirming, as far as practicable, that no changes have been made in the structural fire protection, including the structure, fire integrity, protection of stairways and lifts, cabin balconies, openings in "A" and "B" Class divisions, ventilation systems and windows and sidescuttles, and the use of combustible material (SOLAS 74/00/04/12/15 regs.II-2/5.2, 5.3, 6, 8.2, 8.5, 9.2.1, 9.2.2, 9.3, 9.4.1, 9.5, 9.6 (except 9.6.3), 9.7 and 11 (except 11.6)) (SOLAS 74/88 regs.II-2/11, 16, 18, 23 to 35 and 37);
- (PR) 5.2.2.80 confirming, as far as practicable, that no changes have been made in the structural fire protection in cargo spaces intended for the carriage of dangerous goods (SOLAS 74/00 regs.II-2/19.3.8 and 19.3.10) (SOLAS 74/88 regs.II-2/4, 54.2.8, 54.2.10 and 54.2.11);
- (PR) 5.2.2.81 examining and testing any manual and automatic fire doors including the means of closing the openings in "A" and "B" Class divisions (SOLAS 74/00 reg.II-2/9.4.1) (SOLAS 74/88 regs.II-2/30 and 31);
- (PR) 5.2.2.82 examining and testing the fire dampers of ventilation ducts and the main inlets and outlets of all ventilation systems and checking that the power ventilation is capable of being stopped from outside the space served (SOLAS 74/00/14 regs.II-2/5.2.1 and 9.7) (SOLAS 74/88 regs.II-2/16 and 32);

- (PR) 5.2.2.83 confirming that the stairways and ladders, including the low-location lighting system, arranged to provide a means of escape to the lifeboat and liferaft embarkation deck from all passenger and crew spaces and from those spaces in which the crew is normally employed are being maintained (SOLAS 74/00 regs.II-2/13.2, 13.3.1, 13.3.2 and 13.7; FSS Code chs.11 and 13 (except paragraph 3)) (SOLAS 74/88 reg.II-2/28);
- (PR) 5.2.2.84 confirming that the means of escape from any special category spaces and ro-ro spaces are satisfactory (SOLAS 74/00 regs.II-2/13.5 and 13.6) (SOLAS 74/88 reg.II-2/28);
- (PR) 5.2.2.85 confirming that the means of escape from the machinery spaces are satisfactory (SOLAS 74/00/14 reg.II-2/13.4.1) (SOLAS 74/88 reg.II-2/28);
- (PR) 5.2.2.86 examining the fire-extinguishing arrangements, examining and testing the fire detection and alarm systems and the sample extraction smoke detection systems, where applicable in cargo spaces for general cargo and dangerous goods and testing, as far as practicable and as appropriate, the operation of the means for closing the various openings (SOLAS 74/00/14 regs.II-2/7.6, 10.7.1 and 10.7.2; FSS Code chs.5, 9 and 10) (SOLAS 74/88 reg.II-2/39);
- (PR) 5.2.2.87 examining the fire-extinguishing arrangements, examining and testing the fire detection and alarm system and the sample extraction smoke detection system, where applicable, in vehicle, special category and ro-ro spaces, and testing, as far as practicable and as appropriate, the operation of the means for closing the various openings (SOLAS 74/00 reg.II-2/20 (except 20.5); FSS Code chs.5, 6, 7, 9 and 10) (SOLAS 74/88 regs.II-2/37, 38 and 38-1);
- (PR) 5.2.2.88 examining and testing, as appropriate and as far as practicable, the crew alarm and the public address system or other effective means of communication (SOLAS 74/00 regs.II-2/7.9 and 12; LSA Code ch.7) (SOLAS 74/88 reg.II-2/40);
- (PR) 5.2.2.89 examining, when appropriate, the special arrangements for carrying dangerous goods, including checking the electrical equipment and wiring, ventilation, the provision of personnel protection clothing and portable appliances, testing any fire detection and alarm system and any sample extraction smoke detection system and testing, as far as practicable, the water supply, bilge pumping and any water spray system (SOLAS 74/00/08 reg.II-2/19 (except 19.3.8, 19.3.10 and 19.4); FSS Code chs.3, 4, 7, 9 and 10) (SOLAS 74/88 regs.II-2/41 and 54);
- (PR) 5.2.2.90 examining, when appropriate, the helicopter facilities (SOLAS 74/00 regs.II-2/18, III/28) (SOLAS 74/88 reg.II-2/18.8);
- (PR) 5.2.2.91 checking the requirement for passenger ships carrying more than 36 passengers and constructed before 1 October 1994 (SOLAS 74/88/92 regs.II-2/41-1 and 41-2);
- (PR) 5.2.2.92 for passenger ships constructed on or after 1 July 2010 and having a length of 120 m or more or having three or more main vertical zones, checking the designation of safe areas (SOLAS 74/06 reg.II-2/21);

- (PR) 5.2.2.93 for passenger ships constructed on or after 1 July 2010, checking the provision of a safety centre (SOLAS 74/06 reg.II-2/23) and its associated ventilation system (SOLAS 74/06 reg.II-2/8.2);
- (PR) 5.2.2.94 checking that emergency instructions are available for each person on board, the muster list is posted in conspicuous places and there are signs or posters in the vicinity of survival craft and their launching stations (SOLAS 74/96 regs.III/8, 9 and 37);
- (PR) 5.2.2.95 checking that the falls used in launching have been periodically inspected and have been renewed in the past five years (SOLAS 74/96/04 reg.III/20);
- (PR) 5.2.2.96 examining each survival craft, including its equipment and, when fitted, the on-load release mechanism and hydrostatic lock, and for inflatable liferafts the hydrostatic release unit and float free arrangements, including the date of servicing or replacement; checking that the hand-flares are not out of date and that the required number of search and rescue locating devices are fitted in liferafts and those liferafts are clearly marked (SOLAS 74/96/00/02/08 regs.III/20, 21, 23, 24 and 26; LSA Code sections 2.3 to 2.5, 3.2 and 4.1 to 4.6);
- (PR) 5.2.2.97 checking that the life-saving appliances are of an international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea (LSA Code section 1.2.2.6);
- (PR) 5.2.2.98 examining the embarkation arrangements and launching appliances for each survival craft; each lifeboat should be lowered to the embarkation position or, if the stowage position is the embarkation position, lowered a short distance and, if practicable, one of the survival craft should be lowered to the water. The operation of the launching appliances for davit-launched liferafts should be demonstrated (SOLAS 74/96/04 regs.III/11, 12, 13, 15, 16, 20, 21 and 23; LSA Code sections 6.1 and 6.2);
- (PR) 5.2.2.99 checking that a thorough examination of launching appliances, including the dynamic testing of the winch brake, and servicing of lifeboat and rescue boat on-load release gear and davit-launched liferaft automatic release hooks have been carried out (SOLAS 74/00/12 reg.III/ 20);
- (PR) 5.2.2.100 checking the rotational deployment of MES (SOLAS 74/88 reg.III/20.8.2; LSA Code section 6.2.2.2);
- (PR) 5.2.2.101 examining each rescue boat, including its equipment; for inflatable rescue boats, confirming that they are stowed in a fully inflated condition (SOLAS 74/88/04 regs.III/14, 17, 21, 26.3 and 34);
- (PR) 5.2.2.102 examining the embarkation and recovery arrangements for each rescue boat (SOLAS 74/88 reg.III/14);
- (PR) 5.2.2.103 checking the arrangements for mustering passengers (SOLAS 74/96 regs.III/11, 24 and 25);

- (PR) 5.2.2.104 confirming that a means of rescue is provided on ro-ro passenger ships (SOLAS 74/00 regs.III/11, 26.4);
- (PR) 5.2.2.105 confirming that a helicopter pick-up area is provided on ro-ro passenger ships (SOLAS 74/00 reg.III/28);
- (PR) 5.2.2.106 confirming that a decision support system is provided for the master (SOLAS 74/88 reg.III/29) (SOLAS 74/06 regs.II-2/21 and 22);
- (PR) 5.2.2.107 testing that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactorily and operate both ahead and astern;
- (PR) 5.2.2.108 examining and checking the operation of two-way VHF radiotelephone apparatus and search and rescue locating devices (SOLAS 74/88/08 regs.III/6, IV/7 and 14);
- (PR) 5.2.2.109 examining the line-throwing appliance and checking that its rockets and the ship's distress signals are not out of date (SOLAS 74/96 regs.III/6, 18 and 35; LSA Code sections 3.1 and 7.1);
- (PR) 5.2.2.110 examining and checking the operation of onboard communications equipment and verifying that the general alarm system is audible in accommodation, normal crew working spaces and on open decks (SOLAS 74/96 regs.III/6, 18 and 35; LSA Code sections 3.1 and 7.1);
- (PR) 5.2.2.111 examining the provision, disposition, stowage and condition of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets,* immersion suits, anti-exposure suits and thermal protective aids and that their associated batteries are not out of date (SOLAS 74/88/06 regs.III/7, 21, 22 and 26; LSA Code sections 2.1 to 2.5 and 3.1 to 3.3);
- (PR) 5.2.2.111.1 checking the provision of lifejackets in three sizes (Infant, Child, Adult) and checking that they are marked by either weight or height, or by both weight and height (LSA Code section 2.2.1.1); for passenger ships on voyages less than 24 h, checking that the number of infant lifejackets is equal to at least 2.5% of the number of passengers on board and for passenger ships on voyages 24 h or greater, checking that infant lifejackets are provided for each infant on board (SOLAS 74/06 reg.III/7.2.1);
- (PR) 5.2.2.111.2 checking that immersion suits designed to be worn in conjunction with a lifejacket are suitably marked (LSA Code section 2.3.1);
- (PR) 5.2.2.112 checking the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including when supplied from the emergency source of power (SOLAS 74/88 regs.II-1/42 and III/11);
- (PR) 5.2.2.113 checking that the required navigation lights, shapes and sound signalling equipment are in order (COLREG, rules 20 to 24, 27 to 30 and 33);

* SOLAS regulations III/7.2.1.1, 7.2.1.2 and 7.2.1.5 should be considered.

- (PR) 5.2.2.114 checking the provision and specification of the following navigation equipment as appropriate: daylight signalling lamp, magnetic compass, transmitting heading device, gyro compass, gyro compass repeaters, radar installation(s), electronic plotting aid, automatic tracking aid(s) or automatic radar plotting aid(s), echo-sounding device, speed and distance indicator, rudder angle indicator, propeller rate-of-revolution indicator, variable pitch propeller pitch and operational mode indicator, rate-of-turn indicator, heading or track control system, GNSS receiver, terrestrial radio navigation system and sound reception system, a pelorus or compass bearing device, means for correcting heading and bearings, a BNWAS, as applicable, and ECDIS including backup arrangements, as applicable; items that cannot be checked with the ship in port should be verified from records (SOLAS 74/00/09/13 reg.V/19);
- (PR) 5.2.2.115 checking for the provision, specification operation and annual performance test of the voyage data recorder (SOLAS 74/00/04 reg.V/20);
- (PR) 5.2.2.116 checking that the International Code of Signals and an up-to-date copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual have been provided (SOLAS 74/00/02 reg.V/21);
- (PR) 5.2.2.117 checking that a valid conformance test report of the long-range identification and tracking system is available on board, where fitted (SOLAS 74/04 reg.V/19-1);
- (PR) 5.2.2.118 checking the provision and operation of the automatic identification system, where fitted, and whether the annual test has been carried out and a copy of the test report is on board (SOLAS 74/00/04/10 regs.V/18.9 and 19);
- (PR) 5.2.2.119 checking the provision and specification of the pilot ladders and pilot transfer arrangements (SOLAS 74/00/10 reg.V/23);
- (PR) 5.2.2.120 checking the provisions of (PI) 5.1.3.117 to (PI) 5.1.3.142 and (PI) 5.1.3.145 to (PI) 5.1.3.147;
- (PR) 5.2.2.121 confirming that no new materials containing asbestos were installed on board (SOLAS 74/00/05/09 reg.II-1/3-5);*
- (PR) 5.2.2.122 checking that the means of embarkation and disembarkation from ships for use in port and in port-related operations, such as gangways and accommodation ladders, are in satisfactory condition, as applicable (SOLAS 74/08 reg.II-1/3-9); and
- (PR) 5.2.2.123 confirming, where applicable, that an appropriate portable atmosphere testing instrument or instruments[†] is on board, and that suitable means are provided for the calibration of all such instruments;[‡] and checking the appropriateness of the testing and calibration (SOLAS 74/14 reg.XI-1/7).

* Refer to the *Unified interpretation of SOLAS regulation II-1/3-5* (MSC.1/Circ.1379 and MSC.1/Circ.1426/Rev.1).

† Refer to the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7* (MSC.1/Circ.1477).

‡ Refer to the *Unified interpretations of SOLAS regulation XIV/2.2 and paragraphs 1.3.2 and 1.3.6, part I-A of the Polar Code* (MSC.1/Circ.1562).

- (PR) 5.2.3 For the hull, machinery and equipment of passenger ships using natural gas as fuel the additional requirements for the renewal survey should consist of:
- (PR) 5.2.3.1 examining the logbooks and operating records with regard to correct functioning of the gas detection systems, fuel supply/gas systems, etc. (IGF Code ch.16);
- (PR) 5.2.3.2 confirming the manufacturer/builder instructions and manuals covering the operations, safety and maintenance requirements and occupational health hazards relevant to fuel storage, fuel bunkering, and fuel supply and associated systems for the use of the fuel, are provided on board the vessel (IGF Code chs.6 and 18);
- (PR) 5.2.3.3 confirming gas detection and other leakage detection equipment in compartments containing fuel storage, fuel bunkering, and fuel supply equipment or components or associated systems, including indicators and alarms, is in satisfactory operating condition (IGF Code chs.6 and 15);
- (PR) 5.2.3.4 confirming the satisfactory operation of the control, monitoring and automatic shutdown systems of the fuel supply and bunkering systems (IGF Code ch.15);
- (PR) 5.2.3.5 confirming the availability of test and calibration records of the gas detection systems (IGF Code ch.15);
- (PR) 5.2.3.6 examining piping, hoses, emergency shutdown valves, remote operating valves, relief valves, means for inerting, machinery and equipment for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating, cooling or otherwise handling the fuel (IGF Code chs.5, 6, 8, 9, 10 and 15);
- (PR) 5.2.3.7 testing the shutdown of ESD protected machinery spaces operationally, as far as practicable (IGF Code ch.5);
- (PR) 5.2.3.8 confirming stopping of pumps and compressors upon emergency shutdown of the system (IGF Code chs.6, 10 and 15);
- (PR) 5.2.3.9 examining the ventilation system, including portable ventilating equipment where fitted, for spaces containing fuel storage, fuel bunkering, and fuel supply units or components or associated systems; and including air locks, pump-rooms, compressor rooms, fuel preparation rooms, fuel valve rooms, control rooms and spaces containing gas burning equipment (IGF Code chs.12 and 13);
- (PR) 5.2.3.10 testing, as far as practicable, alarms, such as differential pressure and loss of pressure alarms (IGF Code ch.15);
- (PR) 5.2.3.11 examining portable and fixed drip trays and insulation (IGF Code ch.5);
- (PR) 5.2.3.12 examining electrical equipment including electrical bonding arrangements and bulkhead/deck penetrations including access openings in hazardous areas (IGF Code chs 5, 12 and 14);

- (PR) 5.2.3.13 examining the condition and arrangement of fuel storage, bunkering and supply systems, including external examination of storage tank and secondary barrier if fitted and relief valves if accessible, verifying the satisfactory operation of the tank monitoring system, and examining and testing installed bilge alarms and means of drainage (IGF Code chs.6, 8, and 15);
- (PR) 5.2.3.14 testing of the remote and local closing of the installed main tank valve (IGF Code chs.6 and 10);
- (PR) 5.2.3.15 examining bunkering stations and the fuel bunkering system including operation of the fuel bunkering control, monitoring and shutdown systems (IGF Code ch.8);
- (PR) 5.2.3.16 examining the Ship-shore link (SSL) or equivalent means for automatic and manual ESD communication to the bunkering source (IGF Code para.8.5.7);
- (PR) 5.2.3.17 examining the fuel supply system including the fuel supply system control, monitoring and shutdown systems (IGF Code chs.9 and 15);
- (PR) 5.2.3.18 testing of the remote and local closing of the master fuel valve for each engine compartment (IGF Code chs.5, 9 and 15);
- (PR) 5.2.3.19 testing gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to the fuel safety system including proper response of the fuel safety system upon fault conditions (IGF Code ch.15);
- (PR) 5.2.3.20 examining the storage tanks and all associated piping for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating, storing, burning or otherwise handling the fuel and liquid nitrogen installations, and requiring removal of insulation from the piping and opening for examination and hydrostatic test of suspected pipeline as necessary, and leak test of complete piping after reassembly (IGF Code chs.5, 6, 7, 8, 9 and 10);
- (PR) 5.2.3.21 examining emergency shutdown valves, check valves, block and bleed valves, master gas valves, remote operating valves, isolating valves for pressure relief valves in the fuel storage, fuel bunkering, and fuel supply piping systems, with randomly selected valves being opened for examination (IGF Code chs.5, 6, 7, 9, 15 and 16);
- (PR) 5.2.3.22 examining pressure relief valves connected to fuel storage tanks and connected pipes and venting system, with PRV being opened for examination, adjusted and function tested (IGF Code ch.6);
- (PR) 5.2.3.23 examining and testing pressure relief valves in fuel supply/bunker lines, including valves being opened for internal examination and testing; the number of valves being opened up for internal examination and being tested should include all PRVs that were not internally examined and tested in the past 5 years and a random selection of PRVs that were internally examined and tested in the past 5 years provided satisfactory records of overhaul and testing of these PRVs are available (IGF Code ch.6);

- (PR) 5.2.3.24 examining pressure/vacuum relief valves or devices for interbarrier spaces and hold spaces, with the valves being opened, examined, tested and readjusted as necessary (IGF Code ch.6);
- (PR) 5.2.3.25 examining fuel storage tanks internally in accordance with an approved survey plan (IGF Code ch.6);
- (PR) 5.2.3.26 examining and testing of spill protection and water spray systems, for portable liquefied gas fuel tanks located on open deck (IGF Code para.6.5.2);
- (PR) 5.2.3.27 examining and testing the thermal oxidation system if any (IGF Code para.6.9.4);
- (PR) 5.2.3.28 examining and NDE testing the low temperature steel shielding at the bunker station if any (IGF Code para.8.3.1.6);
- (PR) 5.2.3.29 examining fuel pumps, compressors, process pressure vessels, inert gas generators, heat exchangers and other components used in connection with fuel handling (IGF Code chs.5, 6, 8, 9, 10 and 15);
- (PR) 5.2.3.30 examining electrical equipment including the physical condition of electrical cables and supports, intrinsically safe, explosion proof, or increased safety features of electrical equipment, including functional tests of pressurized electrical equipment and associated alarms, testing of electrical equipment for de-energization which is not certified for use in hazardous areas and insulation resistance test of circuits passing through hazardous zone (IGF Code chs.12 and 14);
- (PR) 5.2.3.31 examining and testing gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to the fuel safety system, including verification of the response upon fault conditions, and the calibrations of pressure, temperature and level indicating equipment in accordance with the manufacturer's requirements (IGF Code ch.15);*
- (PR) 5.2.3.32 examining the arrangements for the fire protection and fire extinction (IGF Code ch.11);
- (PR) 5.2.3.33 examining the fire pump capacity and working pressure in relation to the water spray system, if the water spray system is part of the fire main system (IGF Code para.11.4.1);
- (PR) 5.2.3.34 examining the isolating valves of the fire main, when the fuel storage tank or tanks are located on the open deck (IGF Code para.11.4.2);
- (PR) 5.2.3.35 examining the water spray system arrangement for fuel storage tanks(s) on open deck including remote operation (IGF Code section 11.5);
- (PR) 5.2.3.36 examining the fixed dry chemical powder fire-extinguishing system for the bunkering station area (IGF Code para.11.6.1);

* Where applicable, refer to the *Unified interpretations of the IGF Code* (MSC.1/Circ.1591).

- (PR) 5.2.3.37 examining the portable dry powder extinguisher (IGF Code para.11.6.2);
- (PR) 5.2.3.38 examining the fixed fire detection and alarm system (IGF Code sections 11.7, 15.9);
- (PR) 5.2.3.39 checking the records about drills and emergency exercises (IGF Code ch.17); and
- (PR) 5.2.3.40 checking the pre-bunkering verification records according to the bunker safety checklist (IGF Code ch.18).
- (PR) 5.2.4 For the hull, machinery and equipment of passenger ships the completion of the renewal survey should consist of:
 - (PR) 5.2.4.1 after a satisfactory survey, issuing the Passenger Ship Safety Certificate and its associated Record of Equipment (Form P).

Annex 2

**SURVEY GUIDELINES UNDER THE 1966 LL CONVENTION,
AS MODIFIED BY THE 1988 PROTOCOL RELATING THERETO**

- (L) 1 **GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL LOAD LINE CERTIFICATE OR INTERNATIONAL LOAD LINE EXEMPTION CERTIFICATE**
- (LI) 1.1 **Initial surveys** – see part "General" section 4.1
- (LI) 1.1.1 For the load line the examination of plans and designs should consist of:
 - (LI) 1.1.1.1 examining the structural strength at the draught corresponding to the assigned freeboard (LLC 66/88 reg.1);
 - (LI) 1.1.1.2 examining the intact stability, and, where applicable, the damaged stability information and the loading and ballasting information that is to be supplied to the master, and, where not dispensed by the Administration, inclining experimental data (LLC 66/88/08 regs.1 and 10; IS Code chs.1, 2 and 3); and
 - (LI) 1.1.1.3 determining the freeboard, including specifying and considering the conditions of assignment for the freeboard (LLC 66/88/03 regs.11 to 45).
- (LI) 1.1.2 For the load line the survey during construction and after installation should consist of:
 - (LI) 1.1.2.1 checking that, as far as its strength is concerned, the ship has been constructed in accordance with the approved plans (LLC 66/88 reg.1);
 - (LI) 1.1.2.2 confirming that the deck line and load line mark are properly positioned (LLC 66/88 regs.4 to 9);
 - (LI) 1.1.2.3 witnessing the inclining experiment or lightweight survey (LLC 66/88/03 reg.10);
 - (LI) 1.1.2.4 examining the superstructure end bulkheads and the openings therein (LLC 66/88 regs.11 and 12);
 - (LI) 1.1.2.5 examining the means of securing the weathertightness of cargo hatchways, other hatchways and other openings on the freeboard and superstructure decks (LLC 66/88 regs.13 to 18);
 - (LI) 1.1.2.6 examining the ventilators and air pipes, including their coamings and closing appliances (LLC 66/88 regs.19 and 20);
 - (LI) 1.1.2.7 examining the watertight integrity of the closures to any openings in the ship's side below the freeboard deck (LLC 66/88 reg.21);
 - (LI) 1.1.2.8 examining the scuppers, inlets and discharges (LLC 66/88/03 reg.22);
 - (LI) 1.1.2.9 examining the garbage chutes (LLC 66/88/03 reg.22-1);

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- (LI) 1.1.2.10 examining the spurling pipes and cable lockers (LLC 66/88/03 reg.22-2);
 - (LI) 1.1.2.11 examining the sidescuttles and deadlights (LLC 66/88 reg.23);
 - (LI) 1.1.2.12 examining the bulwarks including the provision of freeing ports, special attention being given to any freeing ports fitted with shutters (LLC 66/88/03 regs.24 and 25);
 - (LI) 1.1.2.13 examining the guardrails, gangways, walkways and other means provided for the protection of the crew and means for safe passage of the crew (LLC 66/88/03 regs.25 and 25-1);
 - (LI) 1.1.2.14 examining the special requirements for ships permitted to sail with type "A" or type "B-minus" freeboards (LLC 66/88/03 regs.26 and 27); and
 - (LI) 1.1.2.15 checking, when applicable, the fittings and appliances for timber deck cargoes (LLC 66/88 regs.42 to 45).
 - (LI) 1.1.3 For the load line the check that certificates, etc., have been placed on board should consist of:
 - (LI) 1.1.3.1 checking that the loading and ballasting information has been supplied to the master (LLC 66/88 reg.10).
 - (LI) 1.1.4 For the load line the completion of the initial survey should consist of:
 - (LI) 1.1.4.1 after a satisfactory survey, issuing the International Load Line Certificate or International Load Line Exemption Certificate.
 - (LA) **1.2 Annual surveys** – see part "General", section 4.2
 - (LA) 1.2.1 For the load line the examination of current certificates and other records should consist of:
 - (LA) 1.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
 - (LA) 1.2.1.2 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
 - (LA) 1.2.1.3 checking the validity of the International Ship Security Certificate;
 - (LA) 1.2.1.4 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
 - (LA) 1.2.1.5 checking the validity of the International Oil Pollution Prevention Certificate;
 - (LA) 1.2.1.6 checking the certificate of class, if the ship is classed with a classification society;

- (LA) 1.2.1.7 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (LA) 1.2.1.8 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (LA) 1.2.1.9 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (LA) 1.2.1.10 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (LA) 1.2.1.11 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (LA) 1.2.1.12 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI regs.6.4 and 6.5);
- (LA) 1.2.1.13 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (LA) 1.2.1.14 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (LA) 1.2.1.15 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (LA) 1.2.1.16 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (LA) 1.2.1.17 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (LA) 1.2.1.18 checking whether any new equipment has been fitted and, if so, confirm that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (LA) 1.2.1.19 checking that the stability and, where applicable, the loading and ballasting information is available (LLC 66/88/08 regs.1 and 10; IS Code chs.1, 2 and 3); and
- (LA) 1.2.1.20 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (LA) 1.2.2 For the load line the annual survey should consist of:

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (LA) 1.2.2.1 checking, in general, that there has been no deterioration in the strength of the hull (LLC 66/88 reg.1);
- (LA) 1.2.2.2 checking the positions of the deck line and load line which, if necessary, are to be re-marked and re-painted (LLC 66/88 regs.4 to 9);
- (LA) 1.2.2.3 checking that no alterations have been made to the hull or superstructures that would affect the calculations determining the position of the load lines (LLC 66/88 regs.11 to 45);
- (LA) 1.2.2.4 examining the superstructure end bulkheads and the openings therein (LLC 66/88 regs.11 and 12);
- (LA) 1.2.2.5 examining the means of securing the weathertightness of cargo hatchways, other hatchways and other openings on the freeboard and superstructure decks (LLC 66/88 regs.13 to 18);
- (LA) 1.2.2.6 examining the ventilators and air pipes, including their coamings and closing appliances (LLC 66/88 regs.19 and 20);
- (LA) 1.2.2.7 examining the watertight integrity of the closures to any openings in the ship's side below the freeboard deck (LLC 66/88 reg.21);
- (LA) 1.2.2.8 examining the scuppers, inlets and discharges (LLC 66/88 reg.22);
- (LA) 1.2.2.9 examining the garbage chutes (LLC 66/88/03 reg.22-1);
- (LA) 1.2.2.10 examining the means provided to minimize water ingress through the spurling pipes and chain lockers (LLC 66/88/03 reg.22-2);
- (LA) 1.2.2.11 examining the sidescuttles and deadlights (LLC 66/88 reg.23);
- (LA) 1.2.2.12 examining the bulwarks including the provision of freeing ports, special attention being given to any freeing ports fitted with shutters (LLC 66/88/03 regs.24 and 25);
- (LA) 1.2.2.13 examining the guardrails, gangways, walkways and other means provided for the protection of the crew and means for safe passage of the crew (LLC 66/88/03 regs.25 and 25-1);
- (LA) 1.2.2.14 examining the special requirements for ships permitted to sail with type "A" or type "B-minus" freeboards (LLC 66/88/03 regs.26 and 27); and
- (LA) 1.2.2.15 checking, when applicable, the fittings and appliances for timber deck cargoes (LLC 66/88 regs.42 to 45).
- (LA) 1.2.3 For the load line the completion of the annual survey should consist of:
 - (LA) 1.2.3.1 after a satisfactory survey, endorsement of the International Load Line Certificate or International Load Line Exemption Certificate; and
 - (LA) 1.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.

- (LR) **1.3** **Renewal surveys** – see part "General", section 4.5
- (LR) 1.3.1 For the load line the examination of current certificates and other records should consist of:
 - (LR) 1.3.1.1 the provisions of (LA) 1.2.1, except for the validity of the International Load Line Certificate or International Load Line Exemption Certificate.
- (LR) 1.3.2 For the load line the renewal survey should consist of:
 - (LR) 1.3.2.1 the provisions of (LA) 1.2.2;
 - (LR) 1.3.2.2 examining the hull to ensure that its strength is sufficient for the draught corresponding to the freeboard assigned (LLC 66/88 reg.1).
- (LR) 1.3.3 For the load line the completion of the renewal survey should consist of:
 - (LR) 1.3.3.1 after a satisfactory survey, issuing the International Load Line Certificate or International Load Line Exemption Certificate.

Annex 3

SURVEY GUIDELINES UNDER THE MARPOL CONVENTION

- (O) 1 **GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL OIL POLLUTION PREVENTION CERTIFICATE**
- (OI) 1.1 **Initial surveys** – see part "General", section 4.1
- (OI) 1.1.1 For oil pollution prevention the examination of plans and designs should consist of:
 - (OI) 1.1.1.1 examining the arrangements for the control of the discharge of oil and examining the plans and designs of the oil discharge monitoring and control system and oily-water separating and oil filtering equipment; confirming that pollution prevention equipment is type-approved in accordance with the relevant resolution (MARPOL 90/04/15 Annex I regs.14 & 15);
 - (OI) 1.1.1.2 examining the arrangements for operation in special areas (MARPOL 90/04/15 Annex I reg.15);
 - (OI) 1.1.1.3 examining the arrangements for the segregation of oil and water ballast and the prohibition of carriage of oil in the forepeak tanks or in spaces forward of the collision bulkhead (MARPOL 90/04 Annex I reg.16);
 - (OI) 1.1.1.4 examining the oil residue (sludge) tank and standard discharge arrangements (MARPOL 90/04/15 Annex I regs.12 and 13, and where applicable, Polar Code part II-A/para.1.2.4);
 - (OI) 1.1.1.5 examining oil fuel tank protection arrangements (MARPOL 90/04 Annex I reg.12A, and where applicable, Polar Code part II-A/para.1.2.1);
 - (OI) 1.1.1.6 confirming that requirements regarding capacity and protection of oil fuel tanks are complied with (MARPOL 90/04 Annex I reg.12A, and where applicable, Polar Code part II-A/para.1.2.1); and
 - (OI) 1.1.1.7 examining the shipboard oil pollution emergency plan or in the case of a chemical/product tanker the shipboard marine pollution emergency plan (MARPOL 90/04 Annex I reg.37, and where applicable, Polar Code part II-A/para.1.1.4).
- (OI) 1.1.2 For oil pollution prevention, concerning the additional requirements for oil tankers the examination of plans and designs should consist of:
 - (OI) 1.1.2.1 examining the ODME Manual and the arrangements for the control of the discharge of oil and for the retention of oil on board; verifying that the ODME is type-approved in accordance with the relevant resolution (MARPOL 90/04/15 Annex I regs.29, 31 and 34);
 - (OI) 1.1.2.2 examining the arrangements for operation in special areas (MARPOL 90/04/15 Annex I reg.34);
 - (OI) 1.1.2.3 examining the arrangements for the segregated ballast tanks, checking their capacity and ascertaining whether the draught and trim conditions will be met (MARPOL 90/04 Annex I reg.18);

- (OI) 1.1.2.4 examining the arrangements for crude oil washing, including shadow diagrams and the Operations and Equipment Manual, checking that an inert gas system is to be fitted (MARPOL 90/04 Annex I regs.33 and 35);
- (OI) 1.1.2.5 examining, as appropriate, the arrangements for the prevention of oil pollution in the event of collision or stranding (MARPOL 90/04/14 Annex I regs.19 to 22, and where applicable, Polar Code part II A/paras.1.2.2 and 1.2.3);
- (OI) 1.1.2.6 examining the protective location of the segregated ballast spaces and the arrangements for minimizing pollution due to side and bottom damages (MARPOL 90/04 Annex I regs.18, and 24 to 26);
- (OI) 1.1.2.7 confirming, as appropriate, that arrangements are made for the maintenance and inspection of wing and double bottom tanks or spaces (MARPOL 90/04/14 Annex I reg.19);
- (OI) 1.1.2.8 examining the arrangements for cargo pump-room bottom protection (double bottom where required) (MARPOL 90/04 Annex I reg.22);
- (OI) 1.1.2.9 examining the pumping, piping and discharge arrangements (MARPOL 90/04 Annex I reg.30);
- (OI) 1.1.2.10 examining the arrangements of the oil/water interface detector (MARPOL 90/04 Annex I reg.32);
- (OI) 1.1.2.11 examining, for oil tankers of 5,000 tonnes deadweight and above delivered on or after 1 February 2002, the intact stability (MARPOL 90/04 Annex I, reg.27);
- (OI) 1.1.2.12 examining, for oil tankers of 150 gross tonnage and above delivered after 31 December 1979, the subdivision and damage stability (MARPOL 90/04 Annex I reg.28);
- (OI) 1.1.2.13 examining the accidental oil outflow performance, as applicable (MARPOL 90/04 Annex I reg.23);
- (OI) 1.1.2.14 examining, where applicable, the stability instrument (MARPOL 90/04/14 Annex I reg.28); and
- (OI) 1.1.2.15 examining, when carriage of a stability instrument is waived, the alternative means of verification for intact and damage stability (MARPOL 90/04/14 Annex I reg.3).
- (OI) 1.1.3 For oil pollution prevention the survey during construction and after installation should consist of:
 - (OI) 1.1.3.1 confirming the satisfactory installation and operation of, as appropriate, oil filtering equipment and when appropriate the operation of the automatic means provided to stop the discharge of effluent and the satisfactory operation of the alarm – or other installation (MARPOL 90/04/15 Annex I regs.14 and 15);

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- (OI) 1.1.3.2 confirming, when applicable, that the oil content meter and its recording device are operable and that there is a sufficient supply of consumables for the recording device on board (MARPOL 90/04/15 Annex I regs.14 and 15);
- (OI) 1.1.3.3 testing, where fitted, the automatic stopping device required for discharges in Special Areas (MARPOL 90/04/15 Annex I reg.15);
- (OI) 1.1.3.4 confirming the segregation of the oil fuel and water ballast system and the non-carriage of oil in forepeak tanks (MARPOL 90/04 Annex I reg.16);
- (OI) 1.1.3.5 confirming that the oil residue (sludge) tank and its discharge arrangements are satisfactory and, when the size of the sludge tank is approved on the basis of such installations, confirming the satisfactory operation of homogenizers, sludge incinerators or other recognized means for the control of sludge (MARPOL 90/04/15 Annex I reg.12, and where applicable, Polar Code part II-A/para.1.2.4);
- (OI) 1.1.3.6 confirming the provision of the standard discharge connection (MARPOL 90/04 Annex I reg.13); and
- (OI) 1.1.3.7 confirming oil fuel tank protection arrangements (MARPOL 90/04 Annex I reg.12A, and where applicable, Polar Code part II-A/para.1.2.1).
- (OI) 1.1.4 For oil pollution prevention, concerning the additional requirements for oil tankers the survey during construction and after installation should consist of:
- (OI) 1.1.4.1 confirming that the arrangements of slop tanks or cargo tanks designated as slop tanks, and associated piping systems, are satisfactory (MARPOL 90/04/15 Annex I regs.29 and 34);
- (OI) 1.1.4.2 confirming the satisfactory installation and operation of the oil discharge monitoring and control system, including any audible or visual alarms, the automatic and manual means to stop the discharge of effluent, the starting interlock, the accuracy of the flow meter and the applicable resolution's requirements for installation survey* (MARPOL 90/04/15 Annex I regs.31 and 34);
- (OI) 1.1.4.3 confirming that the oil content meter and its recording device are operable and that there is a sufficient supply of consumables for the recording device on board (MARPOL 90/04/15 Annex I regs.31 and 34);
- (OI) 1.1.4.4 confirming that the approved oil/water interface detectors are on board and are operational (MARPOL 90/04 Annex I reg.32);
- (OI) 1.1.4.5 confirming that the arrangements of pumps, pipes and valves are in accordance with the requirements for segregated ballast systems and that there are no cross-connections between the cargo and segregated ballast systems (MARPOL 90/04 Annex I reg.18);

* Refer to the *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (Resolution A.586(14)), as amended, or the *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (resolution MEPC.108(49)), as amended, as applicable.

- (OI) 1.1.4.6 where a portable spool piece is provided for the emergency discharge of segregated ballast by connecting the segregated ballast system to a cargo pump, confirming that non-return valves are fitted on the segregated ballast connections and that the spool piece is mounted in a conspicuous position in the pump-room with a permanent notice restricting its use (MARPOL 90/04 Annex I reg.18);
- (OI) 1.1.4.7 testing ballast pipelines that pass through cargo tanks and those cargo pipelines that pass through ballast tanks to ensure there is no cross contamination (MARPOL 90/04 Annex I reg.18);
- (OI) 1.1.4.8 confirming that the crude oil washing system is installed in accordance with the approved plans (MARPOL 90/04 Annex I regs.18 and 33) and, in particular:
 - (OI) 1.1.4.8.1 examining crude oil washing piping, pumps, valves and deck-mounted washing machines for signs of leakage and to check that all anchoring devices for crude oil washing piping are intact and secure;
 - (OI) 1.1.4.8.2 carrying out pressure testing of the crude oil washing system to 1.5 times the working pressure;
 - (OI) 1.1.4.8.3 confirming in those cases where drive units are not integral with the tank washing machines that the number of operational drive units specified in the Manual are on board;
 - (OI) 1.1.4.8.4 checking that, when fitted, steam heaters for water washing can be properly isolated during crude oil washing operations, either by double shut-off valves or by clearly identifiable blanks;
 - (OI) 1.1.4.8.5 checking that the prescribed means of communication between the deck watchkeeper and the cargo control position is operational;
 - (OI) 1.1.4.8.6 confirming that an overpressure relief device (or other approved arrangement) is fitted to the pumps supplying the crude oil washing system;
 - (OI) 1.1.4.8.7 verifying that flexible hoses for the supply of oil to the washing machines on combination carriers are of an approved type, are properly stored and are in good condition;
- (OI) 1.1.4.9 verifying the effectiveness of the crude oil washing system (MARPOL 90/04 Annex I reg.33) and, in particular:
 - (OI) 1.1.4.9.1 checking that the crude oil washing machines are operable and observing the proper operation of the washing machines by means of the movement indicators and/or sound patterns or other approved methods;
 - (OI) 1.1.4.9.2 checking the effectiveness of the stripping system in appropriate cargo tanks by observing the monitoring equipment and by hand-dipping or other approved means;

- (OI) 1.1.4.9.3 verifying by internal tank inspection after crude oil washing that the installation and operational procedures laid down in the Operations and Equipment Manual are satisfactory;
- (OI) 1.1.4.10 confirming that, where there is a crude oil washing system, an inert gas system has been installed and tested in accordance with the requirements of SOLAS 74/88/2000 (see (EI) 1.1.5.2 in Annex 1);
- (OI) 1.1.4.11 confirming, as appropriate, that the arrangements for the prevention of oil pollution in the event of collision or stranding are in accordance with the approved plans (MARPOL 90/04/14 Annex I regs.19 to 22, Polar Code part II-A/paras.1.2.2 and 1.2.3);
- (OI) 1.1.4.12 confirming that the piping systems associated with the discharge of dirty ballast water or oil-contaminated water are satisfactory (MARPOL 90/04 Annex I reg.30);
- (OI) 1.1.4.13 confirming that the observation and discharge control positions for visually observing the discharge of oil-contaminated water, including the testing of the communication system between the two positions, are satisfactory (MARPOL 90/04 Annex I reg.30);
- (OI) 1.1.4.14 confirming that the means of draining cargo pumps and cargo lines, including the provision of a stripping device and the connections for pumping to the slop or cargo tanks or ashore, are satisfactory (MARPOL 90/04 Annex I reg.30);
- (OI) 1.1.4.15 confirming that closing devices installed in the cargo transfer system and cargo piping, as appropriate, are satisfactory (MARPOL 90/04 Annex I regs.23 and 26);
- (OI) 1.1.4.16 confirming that the subdivision and stability arrangements, in addition to the provision of (OI) 1.1.4.15, to prevent progressive flooding are satisfactory (MARPOL 90/04 Annex I regs.23 and 26); and
- (OI) 1.1.4.17 confirming the arrangements for cargo pump-room bottom protection (double bottom where required) (MARPOL 90/04 Annex I reg.22).
- (OI) 1.1.5 For oil pollution prevention the check that the documentation has been placed on board cargo ships should consist of:
 - (OI) 1.1.5.1 confirming that certificates for type approval for the oil filtering equipment and oil content meters are available (MARPOL 90/04/15 Annex I reg.14);
 - (OI) 1.1.5.2 confirming that the Oil Record Book (Part I) has been provided (MARPOL 90/04 Annex I reg.17);
 - (OI) 1.1.5.3 confirming that the shipboard oil pollution emergency plan or, in the case of a chemical/product tanker, a shipboard marine pollution emergency plan has been provided (MARPOL 90/04 Annex I reg.37, and where applicable, Polar Code part II-A/section 1.1); and

- (OI) 1.1.5.4 confirming, as appropriate, that the Operating and Maintenance Manuals for the 15 ppm bilge separator and 15 ppm bilge alarm are available.
- (OI) 1.1.6 For the oil pollution prevention the check that the documentation has been placed on board oil tankers should additionally consist of:
 - (OI) 1.1.6.1 confirming that, if applicable, a ship-to-ship (STS) operations plan approved by the Administration has been provided (MARPOL Annex I reg.41);
 - (OI) 1.1.6.2 confirming that, if applicable, a Crude Oil Washing Operations and Equipment Manual has been provided (MARPOL 90/04 Annex I reg.35);
 - (OI) 1.1.6.3 confirming that an operations manual for the oil discharge monitoring and control system has been provided together with any other documentation requested by the applicable resolution* (MARPOL 90/04 Annex I reg.31);
 - (OI) 1.1.6.4 confirming that certificates for type approval for the oil content meters, oil discharge monitoring and control system and oil/water interface detectors are available (MARPOL 90/04 Annex I regs.31 and 32);
 - (OI) 1.1.6.5 confirming that the Oil Record Book (Part II) has been provided (MARPOL 90/04 Annex I reg.36);
 - (OI) 1.1.6.6 confirming that the information and data concerning the subdivision and damage stability has been provided (MARPOL 90/04 Annex I reg.28);
 - (OI) 1.1.6.7 confirming that the shipboard oil pollution emergency plan or in the case of a chemical/product tanker a shipboard marine pollution emergency plan has been provided (MARPOL 90/04 Annex I reg.37, and where applicable, Polar Code part II-A/section 1.1);
 - (OI) 1.1.6.8 confirming, for oil tankers of 5,000 tonnes deadweight and above delivered on/after 1 February 2002, that the intact stability has been approved (MARPOL 90/04 Annex I reg.27);
 - (OI) 1.1.6.9 confirming, for oil tankers of 5,000 tonnes deadweight and above, that arrangements are in place to provide prompt access to shore-based damage stability and residual structural strength computerized calculation programs (MARPOL 90/04 Annex I reg.37.4);
 - (OI) 1.1.6.10 confirming, where applicable, the stability instrument has been approved and is operating satisfactorily (MARPOL 90/04/14 Annex I reg.28); and
 - (OI) 1.1.6.11 confirming, when carriage of a stability instrument is waived, the alternative means of verification for intact and damage stability is recorded on Form B attached to the IOPP Certificate and is being applied effectively (MARPOL 90/04/14 Annex I reg.3).

* Refer to *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (resolution A.586(14)), as amended, or the *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (resolution MEPC.108(49)), as amended, as applicable.

- (OI) 1.1.7 For oil pollution prevention the completion of the initial survey should consist of:
- (OI) 1.1.7.1 after a satisfactory survey, issuing the International Oil Pollution Prevention Certificate.
- (OA) **1.2 Annual surveys** – see part "General", section 4.2
- (OA) 1.2.1 For oil pollution prevention the examination of current certificates and other records should consist of:
- (OA) 1.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (OA) 1.2.1.2 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (OA) 1.2.1.3 checking the validity of the International Oil Pollution Prevention Certificate;
- (OA) 1.2.1.4 checking the certificates of class, if the ship is classed with a classification society;
- (OA) 1.2.1.5 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (OA) 1.2.1.6 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (OA) 1.2.1.7 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (OA) 1.2.1.8 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (OA) 1.2.1.9 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (OA) 1.2.1.10 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (OA) 1.2.1.11 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (OA) 1.2.1.12 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (OA) 1.2.1.13 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (OA) 1.2.1.14 checking, when appropriate, the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (OA) 1.2.1.15 checking the validity of the International Ship Security Certificate;
- (OA) 1.2.1.16 checking, as appropriate, the validity of the Polar Ship Certificate;
- (OA) 1.2.1.17 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (OA) 1.2.1.18 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (OA) 1.2.1.19 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (OA) 1.2.1.20 checking the certificates for the type approval of the oil filtering equipment (MARPOL 90/04/15 Annex I regs.14 and 15);
- (OA) 1.2.1.21 checking, when appropriate, that the Operating and Maintenance Manuals for the 15 ppm bilge separator and 15 ppm bilge alarm are available on board;
- (OA) 1.2.1.22 verifying, if applicable, that the 15 ppm bilge alarm has been calibrated by the manufacturer or a person authorized by the manufacturer and that a valid calibration certificate is available on board;*
- (OA) 1.2.1.23 checking whether the appropriate entries have been made in Part I of the Oil Record Book (MARPOL 90/04 Annex I reg.17, and where applicable, Polar Code part II-A/section 1.1);
- (OA) 1.2.1.24 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable; and
- (OA) 1.2.1.25 confirming that the oil pollution emergency plan or, in the case of a chemical/product tanker, a shipboard marine pollution emergency plan, is on board (MARPOL 90/04 Annex I reg.37, and where applicable, Polar Code part II-A/section 1.1).
- (OA) 1.2.2 For oil pollution prevention the examination of current certificates and other records for oil tankers should additionally consist of:

* Applicable for installations complying with the *Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships* (resolution MEPC.107(49)), as amended.

- (OA) 1.2.2.1 confirming that the approved Dedicated Clean Ballast Tank Operation Manual, and/or the approved Operations and Equipment Manual for the Crude Oil Washing Systems, as appropriate, is/are on board (MARPOL 90/04 Annex I regs.18 and 35);
- (OA) 1.2.2.2 confirming, when appropriate, that a CAS Statement of Compliance together with the CAS Final Report* are on board (MARPOL 90/04/14 Annex I, regs.20.6, 20.7 and 21.6);
- (OA) 1.2.2.3 confirming that the operating and maintenance manual for the oil discharge monitoring and control system is on board (MARPOL 90/04 Annex I reg.31);
- (OA) 1.2.2.4 confirming that a valid calibration certificate for the oil discharge monitoring equipment is available on board;†
- (OA) 1.2.2.5 checking whether the appropriate entries have been made in Part II of the Oil Record Book (MARPOL 90/04 Annex I reg.36, and where applicable, Polar Code part II-A/section 1.1);
- (OA) 1.2.2.6 confirming that for oil tankers of 5,000 tonnes deadweight and above delivered on/after 1 February 2002 the loading conditions and intact stability information, in an approved form, is on board (MARPOL 90/04 Annex I reg.27);
- (OA) 1.2.2.7 confirming that subdivision and damage stability information in an approved form, where applicable, is on board (MARPOL 90/04/14 Annex I reg.28);
- (OA) 1.2.2.8 checking the certificates for the type approval of the oil pollution prevention equipment, such as the oil content meters and oil/water interface detectors, and sighting the records of the various oil discharge monitoring equipment, as applicable (MARPOL 90/04 Annex I reg.31);
- (OA) 1.2.2.9 checking that the ship is allowed continued operation according to the phase-out scheme of MARPOL 90/04/14 Annex I reg.20);
- (OA) 1.2.2.10 confirming that, if applicable, a ship-to-ship (STS) operations plan approved by the Administration has been provided (MARPOL Annex I reg.41);
- (OA) 1.2.2.11 confirming, where applicable, the approved stability instrument is available on board and operating satisfactorily (MARPOL 90/04/14 Annex I reg.28); and
- (OA) 1.2.2.12 confirming, when carriage of a stability instrument is waived, the alternative means of verification for intact and damage stability recorded on Form B attached to the IOPP Certificate is available on board and is being applied effectively (MARPOL 90/04/14 Annex I reg.3).
- (OA) 1.2.3 For oil pollution prevention the annual survey should consist of:

* Refer to the *Condition Assessment Scheme* (resolution MEPC.94(46)), as amended.

† Applicable for installations complying with the *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (resolution MEPC.108(49)), as amended.

- (OA) 1.2.3.1 examining externally the oil filtering equipment and confirming, as far as practicable, its satisfactory operation including, when appropriate, testing the operation of the automatic means provided to stop the discharge of effluent and the alarm for the oil filtering equipment (MARPOL 90/04/15 Annex I regs.14 and 15);
- (OA) 1.2.3.2 testing, where fitted, the oil filtering equipment required for discharge in special areas (MARPOL 90/04/15 Annex I reg.15);
- (OA) 1.2.3.3 confirming the segregation of oil fuel and water ballast systems and that the arrangements prohibit the carriage of oil in forepeak tanks or in spaces forward of the collision bulkhead (MARPOL 90/04 Annex I reg.16);
- (OA) 1.2.3.4 checking that the arrangement of oil residue (sludge) tank and its discharge arrangements are satisfactory and confirming that, where applicable, homogenizers, sludge incinerators or other recognized means for the control of sludge are satisfactory (MARPOL 90/04/15 Annex I reg.12 and, where applicable, Polar Code part II-A/para.1.2.4); and
- (OA) 1.2.3.5 confirming that a standard discharge connection is provided (MARPOL 90/04 Annex I reg.13).
- (OA) 1.2.4 For oil pollution prevention the annual survey of the additional requirements for oil tankers should consist of:
 - (OA) 1.2.4.1 examining the oil discharge monitoring and control system and its associated equipment (MARPOL 90/04 Annex I reg.31) and, in particular:
 - (OA) 1.2.4.1.1 examining externally the system and equipment and, if applicable, verifying that the instrument is properly sealed;
 - (OA) 1.2.4.1.2 confirming, as far as practicable, the satisfactory operation of the oil discharge monitoring and control system including the oil content meter and, where applicable, the automatic and manual means provided to stop the discharge of effluent and the starting interlock;
 - (OA) 1.2.4.1.3 observing that indicators and recording devices are operable and verifying that a sufficient supply of consumables for the recorders is on board; and
 - (OA) 1.2.4.1.4 testing, as far as practicable, any audible or visual alarms fitted to the oil discharge monitoring and control system;
 - (OA) 1.2.4.2 examining, as far as practicable, the oil/water interface detectors (MARPOL 90/04 Annex I reg.32);
 - (OA) 1.2.4.3 confirming that no cross-connections have been fitted between the cargo and segregated ballast systems (MARPOL 90/04 Annex I reg.18);
 - (OA) 1.2.4.4 where a portable spool piece is provided for the emergency discharge of segregated ballast by connecting the segregated ballast system to a cargo pump, confirming that non-return valves are fitted on the

- segregated ballast connections and that the spool piece is mounted in a conspicuous position in the pump-room with a permanent notice restricting its use (MARPOL 90/04 Annex I reg.18);
- (OA) 1.2.4.5 confirming by sighting that there has been no contamination with oil in the segregated ballast tanks (MARPOL 90/04 Annex I reg.18);
- (OA) 1.2.4.6 confirming, as far as practicable, that the dedicated clean ballast tank arrangement remains satisfactory (MARPOL 90/04 Annex I reg.18);
- (OA) 1.2.4.7 confirming by sighting that there has been no contamination with oil in the dedicated clean ballast tanks (MARPOL 90/04 Annex I reg.18);
- (OA) 1.2.4.8 confirming, as far as practicable, that the crude oil washing system remains satisfactory (MARPOL 90/04 Annex I reg.33) and, in particular:
- (OA) 1.2.4.8.1 examining externally the crude oil washing piping, pumps, valves and deck-mounted washing machines for signs of leakage and checking that all anchoring devices for crude oil washing piping are intact and secure;
- (OA) 1.2.4.8.2 confirming, in those cases where drive units are not integral with the tank cleaning machines, that the number of operational drive units as specified in the Manual are on board;
- (OA) 1.2.4.8.3 checking that, when fitted, steam heaters for water washing can be properly isolated during crude oil washing operations, either by double shut-off valves or clearly identifiable blanks;
- (OA) 1.2.4.8.4 checking that the prescribed means of communication between the deck watchkeeper and the cargo control position is operational;
- (OA) 1.2.4.8.5 confirming that an overpressure relief device (or other approved arrangement) is fitted to the pumps supplying the crude oil washing systems;
- (OA) 1.2.4.8.6 confirming that flexible hoses for the supply of oil to the washing machines on combination carriers are of an approved type, are properly stored and are in good condition;
- (OA) 1.2.4.9 verifying, where applicable and as far as practicable, the effectiveness of the crude oil washing system (MARPOL 90/04 Annex I reg.33) and, in particular:
- (OA) 1.2.4.9.1 checking tanks containing departure and/or arrival ballast water, as applicable, to confirm the effectiveness of the cleaning and stripping;
- (OA) 1.2.4.9.2 checking, as far as practicable, that the crude oil washing machines are operable and, when the survey is carried out during crude oil washing operations, observing the proper operation of the washing machines by means of the movement indicators and/or sound patterns or other approved methods;

- (OA) 1.2.4.9.3 checking, as far as practicable, the effectiveness of the stripping system in appropriate cargo tanks by observing the monitoring equipment and by hand-dipping or other approved means;
- (OA) 1.2.4.10 confirming that on those existing tankers operating with special ballast arrangements the arrangements are as approved and are satisfactory (MARPOL 90/04 Annex I reg.18);
- (OA) 1.2.4.11 confirming, as appropriate and as far as practicable, that the arrangements for the prevention of oil pollution in the event of collision or stranding are approved and are satisfactory (MARPOL 90/04/14 Annex I regs.19 to 22, Polar Code part II-A/paras.1.2.2 and 1.2.3);
- (OA) 1.2.4.12 examining the piping systems associated with the discharge of dirty ballast or oil-contaminated water including the part flow system, if fitted (MARPOL 90/04 Annex I reg.30);
- (OA) 1.2.4.13 testing the communication system between the observation and discharge control positions (MARPOL 90/04 Annex I reg.30);
- (OA) 1.2.4.14 examining the means of draining cargo pumps and cargo lines, including the stripping device and the connections for pumping to the slop or cargo tanks or ashore (MARPOL 90/04 Annex I reg.30); and
- (OA) 1.2.4.15 confirming for oil tankers of 5,000 tonnes deadweight and above that arrangements are in place to provide prompt access to shore-based damage stability and residual structural strength computerized calculation programs (MARPOL 90/04 Annex I reg.37.4).
- (OA) 1.2.5 For oil pollution prevention the completion of the annual survey should consist of:
- (OA) 1.2.5.1 after a satisfactory survey, endorsing the International Oil Pollution Prevention Certificate; and
- (OA) 1.2.5.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (OIn) **1.3 Intermediate surveys** – see part "General", section 4.3
- (OIn) 1.3.1 For oil pollution prevention the examination of current certificates and other records should consist of:
- (OIn) 1.3.1.1 the provisions of (OA) 1.2.1.
- (OIn) 1.3.2 For oil pollution prevention the examination of current certificates and other records for oil tankers should additionally consist of:
- (OIn) 1.3.2.1 the provisions of (OA) 1.2.2.
- (OIn) 1.3.3 For oil pollution prevention the intermediate survey should consist of:
- (OIn) 1.3.3.1 the provisions of (OA) 1.2.3;

- (OIn) 1.3.3.2 examining the oily-water separating equipment or oil filtering equipment or process unit, where fitted, including associated pumps, piping and fittings for wear and corrosion (MARPOL 90/04/15 Annex I regs.14 and 15); and
- (OIn) 1.3.3.3 examining the oil content meter (15 ppm alarm and bilge monitor) for obvious defects, deterioration or damage and checking the record of calibration of the meter when done in accordance with the manufacturer's operational and instruction manual (MARPOL 90/04/15 Annex I reg.14).
- (OIn) 1.3.4 For oil pollution prevention the intermediate survey of the additional requirements for oil tankers should consist of:
- (OIn) 1.3.4.1 the provisions of (OA) 1.2.4;
- (OIn) 1.3.4.2 examining the oil discharge monitoring and control system and the oil content meter for obvious defects, deterioration or damage, and checking the record of calibration of the meter when done in accordance with the manufacturer's operational and instruction manual (MARPOL 90/04 Annex I reg.31);
- (OIn) 1.3.4.3 confirming the satisfactory operation of the oil/water interface detectors (MARPOL 90/04 Annex I reg.32);
- (OIn) 1.3.4.4 for the crude oil washing system (MARPOL 90/04 Annex I reg.33):
- (OIn) 1.3.4.4.1 examining the crude oil washing piping outside the cargo tanks; if upon examination there is any doubt as to its condition, the piping may be required to be pressure tested, gauged or both; particular attention should be paid to any repairs such as welded doublers;
- (OIn) 1.3.4.4.2 confirming the satisfactory operation of the isolation valves to steam heaters for washing water, when fitted;
- (OIn) 1.3.4.4.3 examining at least two selected cargo tanks for the express purpose of verifying the continued effectiveness of the installed crude oil washing and stripping systems; if a tank cannot be gas freed for the safe entry of the surveyor, an internal examination of it should not be conducted, in which case the verification is to be made by another alternative method acceptable to the Administration; an acceptable alternative would be satisfactory results during the surveys required by (OA) 1.2.4.9 (MARPOL 90/04 Annex I reg.33); and
- (OIn) 1.3.4.5 examining the manual and/or remote operation of the individual tank valves (or other similar closing devices) to be kept closed at sea (MARPOL 90/04 Annex I regs.23 and 26).
- (OIn) 1.3.5 For the oil pollution prevention the completion of the intermediate survey should consist of:
- (OIn) 1.3.5.1 after a satisfactory survey, endorsing the International Oil Pollution Prevention Certificate; and

- (OIn) 1.3.5.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (OR) **1.4** **Renewal surveys** – see part "General" section 4.5
- (OR) 1.4.1 For oil pollution prevention the examination of current certificates and other records should consist of:
- (OR) 1.4.1.1 the provisions of (OA) 1.2.1, except for the validity of the International Oil Pollution Prevention Certificate; and
- (OR) 1.4.1.2 verifying that, if applicable, the 15 ppm bilge alarm has been calibrated by the manufacturer or a person authorized by the manufacturer and that a valid calibration certificate is available on board.*
- (OR) 1.4.2 For oil pollution prevention the examination of current certificates and other records for tankers should additionally consist of:
- (OR) 1.4.2.1 the provisions of (OA) 1.2.2; and
- (OR) 1.4.2.2 verifying that, if applicable, the oil discharge monitoring equipment has been calibrated and that a valid calibration certificate is available on board.†
- (OR) 1.4.3 For oil pollution prevention the renewal survey should consist of:
- (OR) 1.4.3.1 the provisions of (OIn) 1.3.3;
- (OR) 1.4.3.2 confirming, if necessary by simulated test or equivalent, the satisfactory operation of the oily-water separating equipment or oil filtering equipment (MARPOL 90/04/15 Annex I reg.14);
- (OR) 1.4.3.3 confirming, if necessary by simulated test or equivalent, the satisfactory operation of the oil discharge monitoring and control system, including where practicable the automatic and manual operation of the means provided to stop the discharge of effluent (MARPOL 90/04 Annex I reg.31);
- (OR) 1.4.3.4 confirming the satisfactory operation of the alarm for the oil filtering system (MARPOL 90/04/15 Annex I reg.14); and
- (OR) 1.4.3.5 confirming the satisfactory operation of homogenizers, sludge incinerators or other recognized means for the control of sludge when the size of oil residue (sludge) tank is approved on the basis of such installations (MARPOL 90/04/15 Annex I reg.12).
- (OR) 1.4.4 For oil pollution prevention the renewal survey of the additional requirements for oil tankers should consist of:

* Applicable for installations complying with the *Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships* (resolution MEPC.107(49)), as amended.

† Applicable for installations complying with the *Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers* (resolution MEPC.108(49)), as amended.

- (OR) 1.4.4.1 the provisions of (OIn) 1.3.4;
- (OR) 1.4.4.2 confirming that the arrangements of slop tanks or cargo tanks designated as slop tanks and associated piping systems are satisfactory (MARPOL 90/04/15 Annex I regs.29 and 34);
- (OR) 1.4.4.3 confirming, if necessary by simulated test or equivalent, the satisfactory operation of the oil discharge monitoring and control system and its associated equipment, including the oil/water interface detectors (MARPOL 90/04 Annex I regs.31 and 32);
- (OR) 1.4.4.4 confirming that the arrangements of pumps, pipes and valves are in accordance with the requirements for SBT systems (MARPOL 90/04 Annex I reg.18);
- (OR) 1.4.4.5 confirming that the arrangements of pumps, pipes and valves are in accordance with the *Revised specifications for oil tankers with dedicated clean ballast tanks* (MARPOL 90/04 Annex I reg.18);
- (OR) 1.4.4.6 confirming that the crude oil washing system is in accordance with the requirements for such systems (MARPOL 90/04 Annex I reg.33) and, in particular:
 - (OR) 1.4.4.6.1 carrying out pressure testing of the crude oil washing system to at least the working pressure;
 - (OR) 1.4.4.6.2 examining the cargo tanks for the express purpose of verifying the continued effectiveness of the installed crude oil washing and stripping systems;
 - (OR) 1.4.4.6.3 examining internally, when fitted, the isolation valves for any steam heaters;
 - (OR) 1.4.4.6.4 verifying, by internal tank inspection or by another alternative method acceptable to the Administration, the effectiveness of the crude oil washing system; if the tank cannot be gas freed for the safe entry of the surveyor, an internal inspection should not be conducted; an acceptable alternative would be satisfactory results during the surveys required by (OA) 1.2.4.9 (MARPOL 90/04 Annex I reg.33);
- (OR) 1.4.4.7 confirming that there is no leakage from those ballast pipelines passing through cargo tanks and those cargo pipelines passing through ballast tanks (MARPOL 90/04 Annex I regs.18 and 33);
- (OR) 1.4.4.8 confirming that the pumping, piping and discharge arrangements are satisfactory (MARPOL 90/04 Annex I reg.30) and, in particular:
 - (OR) 1.4.4.8.1 confirming that the piping systems associated with the discharge of dirty ballast water or oil contaminated water are satisfactory;
 - (OR) 1.4.4.8.2 confirming that the means of draining cargo pumps and cargo lines, including the stripping device and the connections for pumping to the slop or cargo tanks or ashore are satisfactory;
 - (OR) 1.4.4.8.3 confirming that the arrangements for the part flow system, where fitted, are satisfactory;

- (OR) 1.4.4.9 confirming that closing devices installed in the cargo transfer system and cargo piping as appropriate are satisfactory (MARPOL 90/04 Annex I regs.23 and 26);
- (OR) 1.4.4.10 confirming, as appropriate and as far as practicable, that the arrangements for the prevention of oil pollution in the event of collision or stranding are satisfactory (MARPOL 90/04/14 Annex I regs.19 to 22; Polar Code part II-A/paras.1.2.2 and 1.2.3); and
- (OR) 1.4.4.11 confirming for oil tankers of 5,000 tonnes deadweight and above that arrangements are in place to provide prompt access to shore-based damage stability and residual structural strength computerized calculation programs (MARPOL 90/04 Annex I reg.37.4).
- (OR) 1.4.5 For oil pollution prevention the completion of the renewal survey should consist of:
- (OR) 1.4.5.1 after a satisfactory survey, issuing the International Oil Pollution Prevention Certificate.
- (N) **2 GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL POLLUTION PREVENTION CERTIFICATE FOR THE CARRIAGE OF NOXIOUS LIQUID SUBSTANCES IN BULK**
- (NI) **2.1 Initial surveys** – see part "General", section 4.1
- (NI) 2.1.1 For the carriage of noxious liquid substances in bulk the examination of plans and designs (as applicable to the cargoes the ship is to be certified to carry) should consist of:
- (NI) 2.1.1.1 drawing up the list of noxious liquid substances it is proposed the ship will be certified to carry (MARPOL 90/04 Annex II reg.6);
- (NI) 2.1.1.2 examining the pumping system (MARPOL 90/04 Annex II reg.12);
- (NI) 2.1.1.3 examining the stripping system (MARPOL 90/04 Annex II reg.12);
- (NI) 2.1.1.4 examining the tank washing system and equipment (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.1.5 examining the underwater discharge arrangements (MARPOL 90/04 Annex II reg.12);
- (NI) 2.1.1.6 examining the ventilation equipment for residue removal (MARPOL 90/04 Annex II reg.13 and App.7);
- (NI) 2.1.1.7 examining the heating system for solidifying and high viscosity substances (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.1.8 examining the Procedures and Arrangements Manual (including cargo carriage requirements to meet Annex II regulations) (MARPOL 90/04 Annex II reg.14 and App.4 and where applicable, Polar Code part II-A/ch.2, MEPC.1/Circ.856);

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- (NI) 2.1.1.9 examining the shipboard marine pollution emergency plan (MARPOL 90/04 Annex II reg.17, and where applicable, Polar Code part II-A/ch.2); and
- (NI) 2.1.1.10 examining, if applicable, the construction and arrangements of a ship certified to carry individually identified vegetable oils under exemption from the carriage requirements (MARPOL 90/04 Annex II, reg.4.1.3).
- (NI) 2.1.2 For the carriage of noxious liquid substances in bulk, the survey during construction and after installation (as applicable to the cargoes the ship is to be certified to carry) should consist of:
- (NI) 2.1.2.1 confirming that the pumping and stripping systems are satisfactory and that portable pipes or bends in sufficient number, if required, are on board (MARPOL 90/04 Annex II reg.12);
- (NI) 2.1.2.2 conducting the water test for assessing the stripping quantity, as required (MARPOL 73/78/90/04 Annex II reg.12 and App.5);
- (NI) 2.1.2.3 confirming that the tank washing machines provided on board are in working order, are those described in the Procedures and Arrangements Manual and are installed in accordance with the approved plans (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.2.4 confirming that the wash water heating system, if required, is installed in accordance with the approved plans (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.2.5 confirming that the number and position of tank cleaning openings for portable machines are in accordance with the approved plans (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.2.6 confirming that the underwater discharge outlet or outlets are in accordance with the approved plans (MARPOL 90/04 Annex II reg.12);
- (NI) 2.1.2.7 verifying by actual test that the discharge rate of the pumps, where a variable rate type is used, can be controlled as specified in the Procedures and Arrangements Manual (MARPOL 90/04 Annex II reg.14 and App.4);
- (NI) 2.1.2.8 confirming that the ventilation equipment for residue removal is installed in accordance with the approved plan and is in working order and that the pressure in the driving medium for portable fans for ventilation equipment for residue removal can be achieved to give the required fan capacity (MARPOL 90/04 Annex II reg.13 and App.7);
- (NI) 2.1.2.9 confirming that the heating system for solidifying and high viscosity substances is installed in accordance with the approved plan (MARPOL 90/04 Annex II reg.14 and App.4); and
- (NI) 2.1.2.10 confirming if applicable the construction and arrangements of a ship certified to carry individually identified vegetable oils under exemption from the carriage requirements (MARPOL 90/04 Annex II reg.4.1.3).

- (NI) 2.1.3 For the carriage of noxious liquid substances in bulk the check that the required documentation has been placed on board cargo ships (as applicable to the cargoes the ship is to be certified to carry) should consist of:
- (NI) 2.1.3.1 confirming that the Procedures and Arrangements Manual has been provided (MARPOL 90/04 Annex II reg.14, and where applicable, Polar Code part II-A ch.2, MEPC.1/Circ.856);
- (NI) 2.1.3.2 confirming that the Cargo Record Book has been provided (MARPOL 90/04 Annex II reg.15, and where applicable, Polar Code part II-A ch.2); and
- (NI) 2.1.3.3 confirming that the shipboard marine pollution emergency plan is provided (MARPOL 04 Annex II, reg.17, and where applicable, Polar Code part II-A ch.2).
- (NI) 2.1.4 For the carriage of noxious liquid substances in bulk the completion of the initial survey should consist of:
- (NI) 2.1.4.1 after a satisfactory survey, issuing the International Certificate for the Carriage of Noxious Liquid Substances in Bulk.
- (NA) **2.2 Annual surveys** – see part "General", section 4.2
- (NA) 2.2.1 For the carriage of noxious liquid substances in bulk the examination of current certificates and other records should consist of:
- (NA) 2.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (NA) 2.2.1.2 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (NA) 2.2.1.3 checking the validity of the International Oil Pollution Prevention Certificate;
- (NA) 2.2.1.4 checking the certificates of class, if the ship is classed with a classification society;
- (NA) 2.2.1.5 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (NA) 2.2.1.6 checking the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (NA) 2.2.1.7 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (NA) 2.2.1.8 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);

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- (NA) 2.2.1.9 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (NA) 2.2.1.10 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (NA) 2.2.1.11 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (NA) 2.2.1.12 checking, when appropriate, the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (NA) 2.2.1.13 checking the validity of the International Ship Security Certificate;
- (NA) 2.2.1.14 checking, as appropriate, the validity of the Polar Ship Certificate;
- (NA) 2.2.1.15 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (NA) 2.2.1.16 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (NA) 2.2.1.17 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (NA) 2.2.1.18 confirming that the Procedures and Arrangements Manual is on board (MARPOL 90/04 Annex II reg.14, and where applicable, Polar Code part II-A ch.2, MEPC.1/Circ.856);
- (NA) 2.2.1.19 confirming that the Cargo Record Book is being correctly used (MARPOL 90/04 Annex II reg.15, and where applicable, Polar Code part II-A ch.2);
- (NA) 2.2.1.20 confirming that the shipboard marine pollution emergency plan is on board (MARPOL 90/04 Annex II reg.17, and where applicable, Polar Code part II-A ch.2); and
- (NA) 2.2.1.21 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (NA) 2.2.2 For the carriage of noxious liquid substances in bulk the annual survey should consist of:
- (NA) 2.2.2.1 examining externally and confirming that the pumping and piping systems, including a stripping system if fitted, and associated equipment remain as approved (MARPOL 90/04 Annex II reg.12);

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (NA) 2.2.2.2 examining externally the tank washing piping and confirming that the type, capacity, number and arrangement of the tank washing machines are as approved (MARPOL 90/04 Annex II reg.14 and App.4);
- (NA) 2.2.2.3 examining externally the wash water heating system (MARPOL 90/04 Annex II reg.14 and App.4);
- (NA) 2.2.2.4 examining externally, as far as practicable, the underwater discharge arrangements (MARPOL 90/04 Annex II reg.12);
- (NA) 2.2.2.5 confirming that the means of controlling the rate of discharge of the residue is as approved (MARPOL 90/04 Annex II reg.14 and App.4);
- (NA) 2.2.2.6 confirming that the ventilation equipment for residue removal is as approved (MARPOL 90/04 Annex II reg.13 and App.7);
- (NA) 2.2.2.7 examining externally, as far as is accessible, the heating system required for solidifying and high viscosity substances (MARPOL 90/04 Annex II reg.14 and App.4); and
- (NA) 2.2.2.8 examining any additional requirements listed on the International Certificate for the Carriage of Noxious Liquid Substances in Bulk.
- (NA) 2.2.3 For the carriage of noxious liquid substances in bulk the completion of the annual survey should consist of:
 - (NA) 2.2.3.1 after a satisfactory survey, endorsing the International Certificate for the Carriage of Noxious Liquid Substances in Bulk; and
 - (NA) 2.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General" section 4.8.
- (NIn) **2.3 Intermediate surveys** – see part "General", section 4.3
 - (NIn) 2.3.1 For the carriage of noxious liquid substances in bulk the examination of current certificates and other records should consist of:
 - (NIn) 2.3.1.1 the provisions of (NA) 2.2.1.
 - (NIn) 2.3.2 For the carriage of noxious liquid substances in bulk the intermediate survey should consist of:
 - (NIn) 2.3.2.1 the provisions of (NA) 2.2.2;
 - (NIn) 2.3.2.2 verifying from the Cargo Record Book that the pumping and stripping arrangements have been emptying the tanks efficiently and are all in working order (MARPOL 90/04 Annex II regs.12 and 15);
 - (NIn) 2.3.2.3 confirming, if possible, that the discharge outlet(s) are in good condition (MARPOL 90/04 Annex II P & A Standards); and
 - (NIn) 2.3.2.4 confirming that the ventilation equipment for residue removal is satisfactory and that the pressure in the driving medium for portable fans for ventilation equipment for residue removal can be achieved to give the required fan capacity (MARPOL 90/04 Annex II App.7).

- (NIn) 2.3.3 For the carriage of noxious liquid substances in bulk the completion of the intermediate survey should consist of:
- (NIn) 2.3.3.1 after a satisfactory survey, endorsing the International Certificate for the Carriage of Noxious Liquid Substances in Bulk; and
- (NIn) 2.3.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General", section 4.8.
- (NR) **2.4** **Renewal surveys** – see part "General", section 4.4
- (NR) 2.4.1 For the carriage of noxious liquid substances in bulk the examination of current certificates and other records should consist of:
- (NR) 2.4.1.1 the provisions of (NA) 2.2.1, except for the validity of the International Certificate for the Carriage of Noxious Liquid Substances in Bulk.
- (NR) 2.4.2 For the carriage of noxious liquid substances in bulk the renewal survey should consist of:
- (NR) 2.4.2.1 the provisions of (NIn) 2.3.2;
- (NR) 2.4.2.2 confirming that the pumping and stripping systems are satisfactory and that portable pipes or bends in sufficient number, if required, are on board (MARPOL 73/78/90/04 Annex II reg.12);
- (NR) 2.4.2.3 conducting the water test for assessing the stripping quantity, as required (MARPOL 73/78/90/04 Annex II reg.12 and App.5);
- (NR) 2.4.2.4 confirming that the tank washing machines provided on board are in working order, are those described in the Procedures and Arrangements Manual and are installed in accordance with the approved plans (MARPOL 90/04 Annex II reg.14 and App.4);
- (NR) 2.4.2.5 confirming that the wash water heating system, if required, is installed in accordance with the approved plans and is in working order (MARPOL 90/04 Annex II reg.14 and App.4);
- (NR) 2.4.2.6 confirming that the number and position of tank cleaning openings for portable machines are in accordance with the approved plans (MARPOL 90/04 Annex II reg.14 and App.4);
- (NR) 2.4.2.7 confirming that the underwater discharge outlet(s) are in good condition and are in accordance with the approved plans (MARPOL 90/04 Annex II regs.12, 14 and App.4);
- (NR) 2.4.2.8 verifying by actual test that the discharge rate of the pumps, where a variable rate type is used, can be controlled as specified in the Procedures and Arrangements Manual (MARPOL 90/04 Annex II reg.14 and App.4);
- (NR) 2.4.2.9 confirming that the ventilation equipment for residue removal is installed in accordance with the approved plan and is in working order (MARPOL 90/04 Annex II regs.12, 14 and App.4); and

- (NR) 2.4.2.10 confirming that the heating system for solidifying and high viscosity substances is installed in accordance with the approved plan and is in working order (MARPOL 90/04 Annex II regs.12, 14 and App.4).
- (NR) 2.4.3 For the carriage of noxious liquid substances in bulk the completion of renewal survey should consist of:
- (NR) 2.4.3.1 after a satisfactory survey, issuing the International Certificate for the Carriage of Noxious Liquid Substances in Bulk.
- (S) **3** **GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL SEWAGE POLLUTION PREVENTION CERTIFICATE**
- (SI) **3.1** **Initial surveys** – see part "General", section 4.1
- (SI) 3.1.1 For sewage pollution prevention the examination of plans and designs should consist of:
- (SI) 3.1.1.1 examining as appropriate the arrangements for the provision of a sewage treatment plant, or of a sewage comminuting and disinfecting system, or of a sewage holding tank (MARPOL Annex IV reg.9);
- (SI) 3.1.1.2 if a sewage treatment plant is fitted, checking that it is type-approved by the Administration in accordance with the appropriate resolution (MARPOL Annex IV, regs.9.1.1 and 9.2.1);
- (SI) 3.1.1.3 if a sewage comminuting and disinfecting system is fitted, checking that it is approved by the Administration and that facilities for the temporary storage of sewage are provided (MARPOL Annex IV, reg.9.1.2);
- (SI) 3.1.1.4 if a sewage holding tank is fitted, checking its capacity having regard to the number of persons on board (MARPOL Annex IV, regs.9.1.3 and 9.2.2);
- (SI) 3.1.1.5 examining the arrangements for the provision of a standard discharge connection (MARPOL Annex IV reg.10); and
- (SI) 3.1.1.6 examining the arrangements for the provision of a pipeline for the discharge of sewage to a reception facility (MARPOL Annex IV reg.10).
- (SI) 3.1.2 For sewage pollution prevention the survey during construction and after installation should consist of:
- (SI) 3.1.2.1 checking externally, as applicable, the sewage treatment plant or the sewage comminuting and disinfecting system, and confirming their operation (MARPOL Annex IV, regs.4.1.1, 9.1.1, 9.1.2 and 9.2.1);
- (SI) 3.1.2.2 if a sewage holding tank is fitted, checking that it has been constructed in a satisfactory manner, and checking that the holding tank has a means to indicate visually the amount of its contents (MARPOL Annex IV, regs.9.1.3 and 9.2.2);
- (SI) 3.1.2.3 confirming that a standard discharge connection is provided (MARPOL Annex IV reg.10); and

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- (SI) 3.1.2.4 confirming that a pipeline for the discharge of sewage to a reception facility is provided (MARPOL Annex IV reg.10).
- (SR) **3.2 Renewal surveys** – See "General", section 4.5
- (SR) 3.2.1 For sewage pollution prevention the examination of current certificates and other records should consist of:
- (SR) 3.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate or Passenger Ship Safety Certificate;
- (SR) 3.2.1.2 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (SR) 3.2.1.3 checking the validity of the International Oil Pollution Prevention Certificate;
- (SR) 3.2.1.4 checking the validity of the International Air Pollution Prevention Certificate;
- (SR) 3.2.1.5 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (SR) 3.2.1.6 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5);*
- (SR) 3.2.1.7 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (SR) 3.2.1.8 checking the validity of the International Ship Security Certificate;
- (SR) 3.2.1.9 checking the certificates of class, if the ship is classed with a classification society;
- (SR) 3.2.1.10 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemical in Bulk;
- (SR) 3.2.1.11 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (SR) 3.2.1.12 checking when appropriate the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (SR) 3.2.1.13 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (SR) 3.2.1.14 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (SR) 3.2.1.15 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board, where applicable;
- (SR) 3.2.1.16 checking, as appropriate, the validity of the Polar Ship Certificate;
- (SR) 3.2.1.17 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the certificate; and
- (SR) 3.2.1.18 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (SR) 3.2.2 For sewage pollution prevention the renewal survey should consist of:
 - (SR) 3.2.2.1 confirming that no change has been made nor any new equipment installed which would affect the validity of the certificate (MARPOL Annex IV reg.4.8);
 - (SR) 3.2.2.2 examining externally the sewage pollution prevention system and confirming, as far as practicable, its satisfactory operation (MARPOL Annex IV, reg.9);
 - (SR) 3.2.2.3 confirming that a procedure for discharge of animal effluent is implemented on board (MARPOL 73/78/07 Annex IV reg.11.1.1, and where applicable, Polar Code part II-A section 4.2); and
 - (SR) 3.2.2.4 confirming, for ships where a sewage holding tank is fitted as a sewage system, that an approval for the rate of discharge is available (MARPOL Annex IV, regs.9.1.3 and 11.1.1).
- (SR) 3.2.3 For sewage pollution prevention the completion of the renewal survey should consist of:
 - (SR) 3.2.3.1 after a satisfactory survey the International Sewage Prevention Certificate should be issued.
- (A) **4 GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE AND THE NO_x TECHNICAL CODE**
- (AI) **4.1 Initial surveys** – see part "General", section 4.1
- (AI) 4.1.1 For air pollution prevention the examination of plans and designs should consist of:
 - (AI) 4.1.1.1 examining the arrangements for systems using ozone-depleting substances (MARPOL Annex VI reg.12);

- (AI) 4.1.1.2 examining the arrangements for NO_x emission control, if applicable (MARPOL Annex VI reg.13);
- (AI) 4.1.1.3 examining the arrangements for SO_x and particulate matter control, if applicable (MARPOL Annex VI reg.14);
- (AI) 4.1.1.4 examining, where applicable as an equivalence, the plans and arrangements for the exhaust gas cleaning system* or other technological methods (MARPOL Annex VI reg.4);
- (AI) 4.1.1.5 examining the arrangements for vapour collection systems, if applicable (MARPOL Annex VI reg.15 and MSC/Circ.585); and
- (AI) 4.1.1.6 examining the arrangements for shipboard incinerators, if applicable (MARPOL Annex VI reg.16).
- (AI) 4.1.2 For air pollution prevention the survey should consist of:
 - (AI) 4.1.2.1 Ozone-depleting substances (MARPOL Annex VI reg.12):
 - (AI) 4.1.2.1.1 confirming, if applicable, the satisfactory installation and operation of systems using ozone-depleting substances;
 - (AI) 4.1.2.1.2 confirming that no installation or equipment containing ozone-depleting substances, other than hydrochlorofluorocarbons, has been installed since 19 May 2005, (MARPOL Annex VI reg.12.3.1);
 - (AI) 4.1.2.1.3 confirming that no installation or equipment containing hydrochlorofluorocarbons have been fitted since 1 January 2020 (MARPOL Annex VI reg.12.3.2);
 - (AI) 4.1.2.2 Nitrogen oxide emissions from marine diesel engines (MARPOL Annex VI reg.13):
 - (AI) 4.1.2.2.1 confirming that all marine diesel engines which are required to be certified are pre-certified in accordance with section 2.2 of the NO_x Technical Code to the required Tier and installed in accordance with the approved duty cycle.
 - (AI) 4.1.2.2.1.1 If the engine parameter check method is used:
 - (AI) 4.1.2.2.1.1.1 an onboard verification survey in accordance with section 6.2 of the NO_x Technical Code;
 - (AI) 4.1.2.2.1.2 If the simplified method is used:
 - (AI) 4.1.2.2.1.2.1 an onboard verification survey in accordance with section 6.3 of the NO_x Technical Code;
 - (AI) 4.1.2.2.1.3 If the direct measurement and monitoring method is used (for existing ships only):

* Refer to the *2015 Guidelines for exhaust gas cleaning systems* (resolution MEPC.259(68)).

- (AI) 4.1.2.2.1.3.1 an onboard verification survey, in accordance with section 6.4 of the NO_x Technical Code;
- (AI) 4.1.2.2.1.4 For marine diesel engines with an output of more than 5,000 kW and a per cylinder displacement at or above 90 litres/cylinder installed on ships constructed between 1 January 1990 and 31 December 1999, check* (MARPOL Annex VI reg.13.7.3):
- .1 whether an approved method exists but is not applicable;
 - .2 whether an approved method is not commercially available at this survey; or
 - .3 that an approved method is installed and, where this is the case, that there is an approved method file,
and apply the verification procedures as given in the approved method file;
 - .4 or that the engine has been certified, confirming that it operates within the limits set forth for Tier I, Tier II or Tier III;
- (AI) 4.1.2.3 Sulphur oxides and particulate matter (MARPOL Annex VI reg.14):
- (AI) 4.1.2.3.1 confirming, if appropriate, that:
- .1 satisfactory arrangements are in place for using compliant fuel as required; or
 - .2 satisfactory installation and operation of the fuel switching arrangements are in place when tanks are provided for different grades of fuel, and that a written procedure showing how the fuel oil changeover is done, is available; or
 - .3 satisfactory installation and operation of the exhaust gas cleaning system[†] or other technological methods are examined (MARPOL Annex VI reg.4);
- (AI) 4.1.2.4 Volatile organic compounds (MARPOL Annex VI reg.15) (if applicable):
- (AI) 4.1.2.4.1 confirming the satisfactory installation of the vapour collection piping;
- (AI) 4.1.2.4.2 confirming the satisfactory installation and operation of the means provided to eliminate the collection of condensation in the system, such as drains in low points of the line end;
- (AI) 4.1.2.4.3 confirming the satisfactory installation and operation of the isolation valves at the vapour manifolds;
- (AI) 4.1.2.4.4 confirming that the ends of each line are properly identified as vapour collection lines;

* Refer to the 2014 *Guidelines on the approved method process* (resolution MEPC.243(66)).

† Refer to the 2015 *Guidelines for exhaust gas cleaning systems* (resolution MEPC.259(68)).

- (AI) 4.1.2.4.5 confirming that the vapour collection flanges are in accordance with the IMO guidelines and industrial standards;
- (AI) 4.1.2.5 Shipboard incinerators (MARPOL Annex VI reg.16) (installed on or after 1 January 2000):
 - (AI) 4.1.2.5.1 confirming the satisfactory installation and operation of each incinerator;
 - (AI) 4.1.2.5.2 confirming that the manufacturer's name, incinerator model number/type and capacity in heat units per hour are permanently marked on the incinerator.
- (AI) 4.1.3 For air pollution prevention the check that certificates and other relevant documentation have been placed on board should consist of:
 - (AI) 4.1.3.1 the provision of (AA) 4.2.2.2 as applicable except (AA) 4.2.2.2.15.
- (AI) 4.1.4 For air pollution prevention the completion of the initial survey should consist of:
 - (AI) 4.1.4.1 after a satisfactory survey, issuing the International Air Pollution Prevention Certificate.
- (AA) **4.2 Annual surveys** – see "General", section 4.2
 - (AA) 4.2.1 For air pollution prevention the examination of current certificates and other records should consist of:
 - (AA) 4.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
 - (AA) 4.2.1.2 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board, where applicable;
 - (AA) 4.2.1.3 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
 - (AA) 4.2.1.4 checking the validity of the International Oil Pollution Prevention Certificate;
 - (AA) 4.2.1.5 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
 - (AA) 4.2.1.6 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
 - (AA) 4.2.1.7 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);

- (AA) 4.2.1.8 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (AA) 4.2.1.9 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (AA) 4.2.1.10 checking the certificates of class, if the ship is classed with a classification society;
- (AA) 4.2.1.11 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (AA) 4.2.1.12 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (AA) 4.2.1.13 checking that the master, officers and ratings are certificated as required by the STCW Convention; and
- (AA) 4.2.1.14 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate.
- (AA) 4.2.2 For air pollution prevention the annual survey should consist of the following:
 - (AA) 4.2.2.1 General:
 - (AA) 4.2.2.1.1 confirming that no changes have been made or any new equipment installed which would affect the validity of the certificate;
 - (AA) 4.2.2.2 Documentation:
 - (AA) 4.2.2.2.1 confirming that there is an ozone-depleting substances record book, if applicable (MARPOL Annex VI reg.12.6);
 - (AA) 4.2.2.2.2 confirming that there are Engine International Air Pollution Prevention (EIAPP) Certificates for each marine diesel engine, required to be certified, as described in chapter 2.1 of the NO_x Technical Code;
 - (AA) 4.2.2.2.3 confirming that there is on board an approved technical file for each marine diesel engine required to be certified;
 - (AA) 4.2.2.2.4 confirming that there is a record book of engine parameters for each marine diesel engine required to be certified in the case where the engine parameter check method is used as a means of onboard NO_x verification (NO_x Technical Code para.6.2.3);

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (AA) 4.2.2.2.5 confirming that there is an approved onboard monitoring manual for each marine diesel engine required to be certified in the case where the direct measurement and monitoring method is to be used as a means of onboard NO_x verification (NO_x Technical Code para.6.4.17.1);
- (AA) 4.2.2.2.6 confirming that there is a record taking the form of a logbook as prescribed by the Administration, for recording the tier and on/off status (or changes) of marine diesel engines which are certified to both Tier II and Tier III or which are certified to Tier II only at entry into and exit from an emission control area (MARPOL Annex VI reg.13.5.3);
- (AA) 4.2.2.2.7 confirming that there are written procedures covering fuel changeover, where applicable;
- (AA) 4.2.2.2.8 confirming that there is a record of fuel changeover, where applicable, and that this record should take the form of a logbook as prescribed by the Administration (MARPOL Annex VI reg.14.6);*
- (AA) 4.2.2.2.9 confirming that there is for each exhaust gas cleaning system-SO_x (EGCS-SO_x) an approved SO_x Emissions Compliance Plan (SECP), EGC system – Technical Manual (ETM-A or ETM-B), Onboard Monitoring Manual (OMM) and EGC Record Book or Electronic Logging System and additionally, if applicable, a SO_x Emissions Compliance Certificate (MARPOL Annex VI reg.4 and MEPC.259(68)) or approved documentation in respect of other technological means of achieving compliance;
- (AA) 4.2.2.2.10 confirming that there is a VOC Management Plan, if required (MARPOL Annex VI reg.15.6);
- (AA) 4.2.2.2.11 confirming that there is a transfer procedure, if required, for the VOC collection system;
- (AA) 4.2.2.2.12 confirming that there is, if required, an IMO Type Approval Certificate for each incinerator on board (MARPOL Annex VI reg.16.6.1);
- (AA) 4.2.2.2.13 confirming that there is an instruction manual for each incinerator if required (MARPOL Annex VI reg.16.7);
- (AA) 4.2.2.2.14 confirming that there are records documenting training of the crew in operating each incinerator, if required;
- (AA) 4.2.2.2.15 confirming that there are the required bunker delivery notes on board and the required fuel oil samples are kept under the ship's control (MARPOL Annex VI reg.18) or other relevant documentation;
- (AA) 4.2.2.3 Systems containing ozone-depleting substances, if fitted:
- (AA) 4.2.2.3.1 confirming that no new installation or equipment containing ozone-depleting substances except those covered by (AA) 4.2.2.3.2 have been fitted to the ship after 19 May 2005 (MARPOL Annex VI reg.12.3.1);

* When not prescribed by the Administration, this information could be contained in the engine-room logbook, the deck logbook, the official logbook, the oil record book or a separate logbook solely for this purpose.

- (AA) 4.2.2.3.2 confirming that no installations containing hydrochlorofluorocarbons have been fitted since 1 January 2020 (MARPOL Annex VI reg.12.3.2);
- (AA) 4.2.2.3.3 examining externally any installation or equipment as far as practicable to ensure satisfactory maintenance and that there are no emissions of ozone-depleting substances;
- (AA) 4.2.2.3.4 confirming through documentary evidence that there has been no deliberate emission of ozone-depleting substance;
- (AA) 4.2.2.4 Nitrogen oxide emissions from each diesel marine diesel engine:
- (AA) 4.2.2.4.1 confirming that each marine diesel engine has been operated as required in accordance with its applicable NO_x emission limit(s);
- (AA) 4.2.2.4.2 confirming that no marine diesel engine has been subject to major conversion in the intervening period;
- (AA) 4.2.2.4.3 if the engine parameter check method is used:
- (AA) 4.2.2.4.3.1 reviewing engine documentation contained in the technical file and the record book of engine parameters to check, as far as practicable, engine rating, duty and limitation/restrictions as given in the technical file;
- (AA) 4.2.2.4.3.2 confirming that the engine has not undergone any modifications or adjustments outside the options and ranges permitted in the technical file since the last survey;
- (AA) 4.2.2.4.3.3 conducting survey as detailed in the technical file;
- (AA) 4.2.2.4.4 if the simplified method is used:
- (AA) 4.2.2.4.4.1 reviewing engine documentation contained in the technical file;
- (AA) 4.2.2.4.4.2 confirming that the test procedure is acceptable to the Administration;
- (AA) 4.2.2.4.4.3 confirming that the analysers, engine performance sensors, ambient condition measurement equipment, span check gases and other test equipment are the correct type and have been calibrated in accordance with the NO_x Technical Code;
- (AA) 4.2.2.4.4.4 confirming that the correct test cycle, as defined in the engine's technical file, is used for these onboard confirmation test measurements;
- (AA) 4.2.2.4.4.5 ensuring that a fuel sample is taken during the test and submitted for analysis;
- (AA) 4.2.2.4.4.6 witnessing the test and confirming that a copy of the test report has been submitted for approval on completion of the test;
- (AA) 4.2.2.4.5 if the direct measurement and monitoring method is used:
- (AA) 4.2.2.4.5.1 reviewing the technical file and the onboard monitoring manual to check that the arrangements are as approved;

- (AA) 4.2.2.4.5.2 the procedures to be checked in the direct monitoring and measure method and the data obtained as given in the approved onboard monitoring manual should be followed (NO_x Technical Code para.6.4.16.1);
- (AA) 4.2.2.4.6 for a marine diesel engine with an output of more than 5,000 kW and a per cylinder displacement at or above 90 litres/cylinder installed on ships constructed between 1 January 1990 and 31 December 1999, checking:^{*} (MARPOL Annex VI reg.13.7.3)
- .1 whether an approved method exists but is not applicable;
 - .2 whether an approved method is not commercially available at this survey; or
 - .3 that an approved method is installed and where this is the case, that there is an approved method file,

and applying the verification procedures as given in the approved method file;
 - .4 or that the engine has been certified, confirming that it operates within the limits set forth for Tier I, Tier II or Tier III;
- (AA) 4.2.2.5 Sulphur oxides and particulate matter:

confirming, if appropriate, that:
- .1 satisfactory arrangements are in place for using compliant fuel as required; or
 - .2 satisfactory installation and operation of the fuel switching arrangements are in place when tanks are provided for different grades of fuel, including records of the changeover to and from low sulphur fuel during transit through an emission control area established for SO_x and particulate matter control; or
 - .3 satisfactory installation and operation of the exhaust gas cleaning system according to approved documentation, including sensors monitoring operational or emission parameters as set out in the OMM, and confirming that all relevant parameters as set out in the SECP, ETM and OMM are recorded and presented in the form or a report (MARPOL Annex VI reg.4 and MEPC.259(68)); or
 - .4 other technological methods are examined (MARPOL Annex VI reg.4);
- (AA) 4.2.2.6 Volatile organic compounds (VOCs):

* Refer to the 2014 Guidelines on the approved method process (resolution MEPC.243(66)).

- (AA) 4.2.2.6.1 confirming that the vapour collect system, if required, is maintained in accordance with its approved arrangement;
- (AA) 4.2.2.6.2 for ships carrying crude oil, confirming the VOC management plan has been implemented as appropriate;
- (AA) 4.2.2.7 Incineration:
- (AA) 4.2.2.7.1 confirming that prohibited materials have not been incinerated;
- (AA) 4.2.2.7.2 confirming that shipboard incineration of sewage sludge or sludge oil in boilers or marine power plants is not undertaken while the ship is inside ports, harbours or estuaries;
- (AA) 4.2.2.8 Incinerators (installed on or after 1 January 2000):
- (AA) 4.2.2.8.1 confirming that operators have been trained as required;
- (AA) 4.2.2.8.2 confirming from an external examination that each incinerator is in a generally satisfactory condition and free from leaks of gas or smoke;
- (AA) 4.2.2.8.3 confirming that combustion chamber outlet temperatures have been maintained as required;
- (AA) 4.2.2.8.4 confirming that each incinerator is maintained according to its approved arrangement.
- (AA) 4.2.3 Fuel oil quality:
- (AA) 4.2.3.1 confirming that bunker delivery notes as required conform to the requirements of MARPOL Annex VI, Appendix V;
- (AA) 4.2.3.2 confirming that MARPOL samples as required are retained on board and labels duly completed or otherwise retained under the ship's control; and
- (AA) 4.2.3.3 confirming that documentation in lieu of that required by (AA) 4.2.3.1 or 4.2.3.2 is available on board.
- (AA) 4.2.4 For air pollution prevention the completion of the annual survey should consist of:
- (AA) 4.2.4.1 after a satisfactory survey, endorsing the International Air Pollution Prevention certificate; and
- (AA) 4.2.4.2 if a survey shows that the condition of the ship or its equipment is unsatisfactory – see "General", section 4.8.
- (Aln) **4.3 Intermediate surveys** – see "General", section 4.3
- (Aln) 4.3.1 For air pollution prevention the examination of current certificates and other records should consist of:
- (Aln) 4.3.1.1 the provisions of (AA) 4.2.1.
- (Aln) 4.3.2 For air pollution prevention the intermediate survey should consist of:

- (AIn) 4.3.2.1 the provisions of (AA) 4.2.2.
- (AIn) 4.3.3 For air pollution prevention the completion of the intermediate survey should consist of:
 - (AIn) 4.3.3.1 after a satisfactory survey, endorsing the International Air Pollution Prevention Certificate; and
 - (AIn) 4.3.3.2 if a survey shows that the condition of the ship or its equipment is unsatisfactory see "General", section 4.8.
- (AR) **4.4** **Renewal surveys** – see "General", section 4.5
- (AR) 4.4.1 For air pollution prevention the examination of current certificates and other records should consist of:
 - (AR) 4.4.1.1 the provisions of (AA) 4.2.1 except the validity of the International Air Pollution Prevention Certificate.
- (AR) 4.4.2 For air pollution prevention the renewal survey should consist of:
 - (AR) 4.4.2.1 the provisions of (AA) 4.2.2;
 - (AR) 4.4.2.2 for each incinerator the renewal survey should consist of:
 - (AR) 4.4.2.2.1 confirming, if necessary by simulated test or equivalent, the satisfactory operation of the alarms and safety devices.
- (AR) 4.4.3 For air pollution prevention the completion of the renewal survey should consist of:
 - (AR) 4.4.3.1 after a satisfactory survey the International Air Pollution Prevention Certificate should be issued.

Annex 4

**SURVEY GUIDELINES UNDER THE INTERNATIONAL CONVENTION
FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST WATER
AND SEDIMENTS, 2004**

**(B) 1 GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL BALLAST WATER MANAGEMENT
CERTIFICATE**

- (B) 1.1 **Initial surveys** – see part "General" section 2.1
- (B) 1.1.1 For the control and management of ships' ballast water and sediments the examination of plans and designs should consist of:
- (B) 1.1.1.1 examining the design and construction (BWM Convention 04, regulation B-5);
- (B) 1.1.1.2 examining the ballast water management plan (BWM Convention 04, regulation B-1);
- (B) 1.1.1.3 examining plans for the installation of ballast water management systems (BWMS) (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable); and
- (B) 1.1.1.4 if applicable, examining plans for the installation of prototype ballast water treatment technologies (BWM Convention 04, regulation D-4).
- (B) 1.1.2 For the control and management of ships' ballast water and sediments the survey during construction and after installation should consist of:
- (B) 1.1.2.1 confirming that the ballast water management plan has been provided (BWM Convention 04, regulation B-1);
- (B) 1.1.2.2 confirming that the ballast water record book has been provided (BWM Convention 04, regulation B-2);
- (B) 1.1.2.3 verifying that, if applicable, the prototype ballast water treatment technology installation has been carried out in accordance with the approved programme and that the workmanship of the installation is satisfactory (BWM Convention 04, regulation D-4);
- (B) 1.1.2.4 confirming that the BWMS(s) installed on or after 28 October 2020 are approved in accordance with the BWMS Code, as may be amended; and confirming that the BWMS(s) installed before 28 October 2020 are approved taking into account the guidelines* developed by the Organization or the BWMS Code, as may be amended (BWM Convention 04/18, regulation D-3, paragraphs 1.1 and 1.2); and
- (B) 1.1.2.5 confirming that, if applicable, a statement of compliance for a prototype ballast water treatment technology has been provided (BWM Convention 04, regulation D-4).

* Refer to resolutions MEPC.125(53), MEPC.174(58) or MEPC.279(70), as appropriate.

- (BI) 1.1.3 When the performance standard described in regulation D-2 is applicable, the survey after installation of BWMS (also applicable for installations on existing ships) should consist of:
- (BI) 1.1.3.1 confirming that the certificate or certificates for type approval of BWMS(s) are available (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.2 confirming that a statement has been provided by the Administration, or by a laboratory authorized by the Administration, confirming that the electrical and electronic components of the BWMS(s) have been type-tested in accordance with the specifications for environmental testing contained in part 3 of the annex of the applicable* *Guidelines for approval of ballast water management systems* (G8) (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.3 confirming that equipment manuals for major components of the BWMS(s) in accordance with the relevant resolution* have been provided (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.4 confirming that an operations and technical manual for the BWMS(s), specific to the ship and approved, containing a technical description of the ballast water management system(s), operational and maintenance procedures, and backup procedures in case of equipment malfunction,* or an operation, maintenance and safety manual of the BWMS* has been provided (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.5 confirming that installation specifications for the BWMS(s), e.g. installation drawing, piping and instrumentation diagrams, have been provided (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.6 confirming that installation commissioning procedures for the BWMS(s) have been provided (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.7 confirming that initial calibration procedures of the BWMS(s) have been provided†(BWM Convention 04/18, regulation D-3);
 - (BI) 1.1.3.8 confirming that a valid calibration certificate is provided on board in accordance with the relevant resolution;‡
 - (BI) 1.1.3.9 confirming that sampling facilities are provided and arranged such as to collect representative samples of the ship's ballast water from the BWMS(s) intake(s), or from a location before the ballast discharge points and any other points necessary for sampling as applicable§ (BWM Convention 04/18, regulation D-3);
 - (BI) 1.1. 3.10 verifying that the BWMS installation has been carried out in accordance with the technical installation specification;

* Only applicable to the BWMS type-approved in accordance with resolution MEPC.125(53) or MEPC.174(58).

† Only applicable to the BWMS type-approved in accordance with resolution MEPC.125(53) or MEPC.174(58).

‡ Applicable to the BWMS type-approved in accordance with resolutions MEPC.125(53), MEPC.174(58), MEPC.279(70) or the BWMS Code.

§ Refer to resolutions MEPC.125(53), MEPC.174(58), MEPC.279(70) or the BWMS Code, where applicable.

- (BI) 1.1.3.11 verifying that the BWMS is in conformity with the Type Approval Certificate of BWMS issued by Administration or its representative;
- (BI) 1.1.3.12 verifying that the installation of the complete BWMS has been carried out in accordance with the manufacturer's equipment specification;
- (BI) 1.1.3.13 verifying that any operational inlets and outlets are located in the positions indicated on the drawings of the pumping and piping arrangements;
- (BI) 1.1.3.14 verifying that the workmanship of the installation is satisfactory and, in particular, that any bulkhead penetrations or penetrations of the ballast system piping are to the relevant approved standards;
- (BI) 1.1.3.15 verifying in accordance with the relevant resolution* that the control and monitoring equipment operates correctly;
- (BI) 1.1.3.16 confirming that, if applicable, the ballast water management recording device(s) are operable and that there is a sufficient supply of consumables for the recording device(s) on board (BWM Convention 04/18, regulation D-3);
- (BI) 1.1.3.17 confirming the satisfactory installation and operation of the BWMS(s), including any audible or visual alarms (BWM Convention 04/18, regulation D-3);
- (BI) 1.1.3.18 confirming that, if applicable,† the suitable bypasses or overrides to protect the safety of the ship and personnel are installed and used in the event of an emergency and these shall be connected to the BWMS so that any bypass of the BWMS shall activate an alarm. The bypass event shall be recorded by the control and monitoring equipment and within the ballast water record book;
- (BI) 1.1.3.19 verifying that, if applicable,‡ installation commissioning procedures have been completed;
- (BI) 1.1.3.20 verifying that an operational test of the BWMS was carried out based on the installation commissioning procedures and that documented evidence is provided which shows compliance of the treated discharge ballast water with regulation D-2 through sampling and analysis based on applicable guidelines developed by the Organization;§
- (BI) 1.1.3.21 confirming that, if applicable, active substances are provided on board (BWM Convention 04/18, regulation D-3); and
- (BI) 1.1.3.22 confirming that, if applicable, dosage instructions for active substances or preparations are available on board (BWM Convention 04/18, regulation D-3).
- (BI) 1.1. 4 For the control and management of ships' ballast water and sediments the completion of the initial survey should consist of:

* Only applicable to the BWMS type-approved in accordance with resolution MEPC.125(53) or MEPC.174(58).

† Only applicable to the BWMS type-approved in accordance with resolution MEPC.279(70) or BWMS Code.

‡ Only applicable to the BWMS type-approved in accordance with resolution MEPC.279(70) or BWMS Code.

§ Refer to BWM.2/Circ.70 on *Guidance for the commissioning testing of ballast water management systems*.

- (BI) 1.1.4.1 after a satisfactory survey, the International Ballast Water Management Certificate should be issued.
- (BA) 1.2 **Annual surveys** – see part "General" section 2.5
- (BA) 1.2.1 For the control and management of ships' ballast water and sediments the examination of current certificates and other records should consist of:
- (BA) 1.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate or Passenger Ship Safety Certificate;
- (BA) 1.2.1.2 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (BA) 1.2.1.3 checking, where appropriate, the validity of the International Oil Pollution Prevention Certificate, International Sewage Pollution Prevention Certificate, and International Air Pollution Prevention Certificate;
- (BA) 1.2.1.4 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (BA) 1.2.1.5 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (BA) 1.2.1.6 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (BA) 1.2.1.7 checking the validity of the International Ship Security Certificate;
- (BA) 1.2.1.8 checking, when appropriate, the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (BA) 1.2.1.9 checking the certificates of class, if the ship is classed with a classification society;
- (BA) 1.2.1.10 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (BA) 1.2.1.11 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (BA) 1.2.1.12 checking, when appropriate, the validity of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;
- (BA) 1.2.1.13 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI (MEPC.1/Circ.876)*.

- (BA) 1.2.1.14 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (BA) 1.2.1.15 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (BA) 1.2.1.16 checking whether any new equipment has been fitted and, if so, confirm that it has been approved before installation and that any changes are reflected in the certificate;
- (BA) 1.2.1.17 confirming that the ballast water management plan is on board (BWM Convention 04, regulation B-1);
- (BA) 1.2.1.18 checking whether the appropriate entries have been made in the ballast record book (BWM Convention 04, regulation B-2);
- (BA) 1.2.1.19 sighting the certificate(s) for type approval for the BWMS(s) (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable);
- (BA) 1.2.1.20 sighting the records of the recording device, if fitted (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable);
- (BA) 1.2.1.21 confirming that a calibration check has been performed in accordance with the approved manual and the relevant resolution;*
- (BA) 1.2.1.22 sighting, if applicable, the statement of compliance for a prototype ballast water treatment technology (BWM Convention 04, regulation D-4); and
- (BA) 1.2.1.23 verifying, if applicable, that there is evidence that the prototype ballast water treatment technology is continuing to be operated in accordance with the approved programme (BWM Convention 04, regulation D-4).
- (BA) 1.2.2 For the control and management of ships' ballast water and sediments, the annual survey should consist of:
 - (BA) 1.2.2.1 the provisions of (BAd) 1.5 where applicable; otherwise
 - (BA) 1.2.2.2 examining externally the ballast water treatment system and confirming, as far as practicable, its satisfactory operation (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable);
 - (BA) 1.2.2.3 confirming that, if applicable, active substances in accordance with the manufacturer's recommendations are provided on board (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable);

* Applicable to the BWMS type-approved in accordance with resolutions MEPC.125(53), MEPC.174(58), MEPC.279(70) or BWMS Code.

- (BA) 1.2.2.4 confirming that, if applicable, dosage instructions for active substances or preparations are available on board (BWM Convention 04/18, regulation D-3 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable); and
- (BA) 1.2.2.5 where applicable examining externally the prototype ballast water treatment technology and confirming, as far as practicable, its satisfactory operation (BWM Convention 04, regulation D-4).
- (BA) 1.2.3 For the control and management of ships' ballast water and sediments, the completion of the annual survey should consist of:
- (BA) 1.2.3.1 after a satisfactory survey, the International Ballast Water Management Certificate should be endorsed; and
- (BA) 1.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General" section 4.8.
- (BIn) **1.3 Intermediate surveys** – see part "General" section 2.4
- (BIn) 1.3.1 For the control and management of ships' ballast water and sediments the examination of current certificates and other records should consist of:
- (BIn) 1.3.1.1 the provisions of (BA) 1.2.1.
- (BIn) 1.3.2 For the control and management of ships' ballast water and sediments the intermediate survey should consist of:
- (BIn) 1.3.2.1 the provisions of (BA) 1.2.2; and
- (BIn) 1.3.2.2 examining the BWMS for obvious defects, deterioration or damage including examining associated pumps, piping and fittings for wear and corrosion (BWM Convention 04/18, regulations D-3 and D-4 / Note: this survey requirement is relevant only when the performance standard according to regulation D-2 is applicable).
- (BIn) 1.3.3 For the control and management of ships' ballast water and sediments the completion of the intermediate survey should consist of:
- (BIn) 1.3.3.1 after a satisfactory survey, the International Ballast Water Management Certificate should be endorsed; and
- (BIn) 1.3.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory, see part "General" section 4.8.
- (BR) **1.4 Renewal surveys** – see part "General" section 2.3
- (BR) 1.4.1 For the control and management of ships' ballast water and sediments the examination of current certificates and other records should consist of:
- (BR) 1.4.1.1 the provisions of (BA) 1.2.1, except for the validity of the International Ballast Water Management Certificate.
- (BR) 1.4.2 For the control and management of ships' ballast water and sediments the renewal survey should consist of:

- (BR) 1.4.2.1 the provisions of (BIn) 1.3.2; and
- (BR) 1.4.2.2 if applicable, confirming, if necessary by simulated test or equivalent, the satisfactory operation of the prototype ballast water treatment technology (BWM Convention 04, regulation. D-4).
- (BR) 1.4.3 For the control and management of ships' ballast water and sediments the completion of renewal survey should consist of:
 - (BR) 1.4.3.1 after a satisfactory survey, the International Ballast Water Management Certificate should be issued.
- (BAd) **1.5 Additional surveys** – see part "General" section 2.7.
- (BAd) 1.5.1 For the control and management of ships' ballast water and sediments, the additional survey should consist of:
 - (BAd) 1.5.1.1 the provisions of (BI) 1.1.1.3, (BI) 1.1.1.4, (BI) 1.1.2.3, (BI)1.1.2.4, (BI) 1.1.2.5 and (BI)1.1.3; and
 - (BAd) 1.5.2 For the control and management of ships' ballast water and sediments the completion of the additional survey should consist of:
 - (BAd) 1.5.2.1 after a satisfactory survey, the International Ballast Water Management Certificate should be issued.

Annex 5

SURVEY GUIDELINES UNDER MANDATORY CODES

- (D) 1 **GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL CERTIFICATE OF FITNESS FOR THE CARRIAGE OF DANGEROUS CHEMICALS IN BULK AND THE CERTIFICATE OF FITNESS FOR THE CARRIAGE OF DANGEROUS CHEMICALS IN BULK**
- (DI) 1.1 **Initial surveys** – see part "General" section 4.1
- (DI) 1.1.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the examination of plans and designs of the structure, equipment, fittings, arrangements and materials should consist of:
- (DI) 1.1.1.1 determining the products that it is intended that the ship will be permitted to carry and noting the corresponding minimum special requirements (IBC Code 12 ch.17) and any other special requirements (IBC Code 83/90/00/04 ch.15);
- (DI) 1.1.1.2 examining the plans for the ship type, location of the cargo tanks, cargo containment, materials of construction, cargo temperature control, cargo tank vent systems, continuous monitoring of the concentration of flammable vapours, environmental control, electrical installations, fire protection and fire extinction, instrumentation and the provision, specification and stowage of the equipment for personnel protection (IBC Code 83/90/00 chs.2, 4, 6, 7, 8, 9, 10, 11, 13 and 14);
- (DI) 1.1.1.3 examining the plans for the freeboard and stability, discharges below the bulkhead deck and survival capability (IBC Code 83/90/00/14 ch.2);
- (DI) 1.1.1.4 examining the plans for the ship arrangements (IBC Code 83/90/00 ch.3);
- (DI) 1.1.1.5 examining the plans for the cargo transfer (IBC Code 83/90/00 ch.5);
- (DI) 1.1.1.6 examining the plans for the mechanical ventilation in the cargo area (IBC Code 83/90/00 ch.12);
- (DI) 1.1.1.7 the provisions of (NI) 2.1.1 in Annex 3;
- (DI) 1.1.1.8 examining, where applicable, the stability instrument (IBC Code 83/90/00/14 ch.2); and
- (DI) 1.1.1.9 examining, when a dispensation from carriage of a stability instrument applies, the alternative means of verification for intact and damage stability (IBC Code 83/90/00/14 ch.2).
- (DI) 1.1.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, the survey during construction and after installation of the structure, equipment, fittings, arrangements and materials should consist of:

- (DI) 1.1.2.1 confirming that tanks containing cargo or residues of cargo are suitably segregated from accommodation, service and machinery spaces and from drinking water and stores for human consumption, that cargo piping does not pass through any accommodation, service or machinery space other than cargo pump-rooms or pump-rooms and that cargoes are not to be carried in either the fore or the aft peak tank (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.2 examining the air intakes and openings into the accommodation, service and machinery spaces in relation to the cargo piping and vent systems and their entrances, air inlets and openings in relation to the cargo area (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.3 examining the arrangements of the cargo pump-rooms (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.4 examining the accesses to spaces in the cargo area (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.5 examining the bilge and ballast arrangements and confirming that pumps and pipelines are identified (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.6 examining, when applicable, the bow or stern loading and unloading arrangements with particular reference to the air inlets and entrances to the accommodation, machinery and service spaces, the electrical equipment, fire-fighting arrangements and means of communication and testing the remote shut down for the cargo pumps (IBC Code 83/90/00 ch.3);
- (DI) 1.1.2.7 confirming that the cargo tank types are arranged and installed in accordance with the approved plans, internally examining the cargo tanks, water ballast tanks and other spaces in the cargo area and pressure testing the boundaries (IBC Code 83/90/00 ch.4);
- (DI) 1.1.2.8 examining the cargo transfer arrangements and confirming that any hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing (IBC Code 83/90/00 ch.5);
- (DI) 1.1.2.9 examining and testing any cargo heating and cooling systems (IBC Code 83/90/00 ch.7);
- (DI) 1.1.2.10 confirming that the cargo tank vent systems have been installed in accordance with the approved plans (IBC Code 83/90/00 ch.8);
- (DI) 1.1.2.11 confirming that high-level alarms, or overflow control systems or spill valves or other equivalent means provided to control possible liquid rising in the venting system, are operating satisfactorily (IBC Code 83/90/00 ch.8);
- (DI) 1.1.2.12 confirming that suitable provision is made for drainage of vent lines and that no shut-off valves or other means of stoppage, including spectacle or blank flanges, are fitted either to the individual vents or to the header, if the vents are combined or either above or below pressure/vacuum relief valves with closed vent systems (IBC Code 83/90/00 ch.8);

- (DI) 1.1.2.13 confirming that suitable provisions are made for primary and secondary means (or alternative measures) for controlled tank venting (IBC Code 83/90/00 ch.8);
- (DI) 1.1.2.14 examining the location of the vent outlets in respect of the height above the weather deck or the fore and aft gangway, from the nearest air intakes or openings to accommodation, service and machinery spaces and ignition sources and confirming that any high velocity vents are of the approved type (IBC Code 83/90/00 ch.8);
- (DI) 1.1.2.15 examining the cross-sectional area and height of the vent outlets for cargo tank purging with inert gas, as applicable (IBC Code 83/90/00/14 ch.8);
- (DI) 1.1.2.16 examining the arrangements for environmental control, including the means of storing or generating and drying an inert gas (IBC Code 83/90/00 ch.9);
- (DI) 1.1.2.17 examining the electrical installations and confirming that, when appropriate, special materials have been used and that the electrical equipment installed in hazardous locations, as permitted, is certified by a recognized authority for the cargoes to be carried (IBC Code 83/90/00 ch.10);
- (DI) 1.1.2.18 confirming that independent cargo tanks are electrically bonded to the hull and that all gasketed cargo pipe joints and hose connections are electrically bonded (IBC Code 83/90/00 ch.10);
- (DI) 1.1.2.19 examining the arrangements for the fire protection and fire extinction (IBC Code 83/90/00 ch.11);
- (DI) 1.1.2.20 examining the fixed fire-fighting system for the cargo pump-room and confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked (IBC Code 83/90/00 ch.11);
- (DI) 1.1.2.21 checking the deck foam system for the cargo area, including the supplies of foam concentrate, and testing that the minimum number of jets of water at the required pressure in the fire main is obtained (see (EI) 1.1.3.1 in Annex 1) when the system is in operation (IBC Code 83/90/00 ch.11);
- (DI) 1.1.2.22 examining the system for continuous monitoring of the concentration of flammable vapours and confirming that the installation tests have been satisfactorily completed (IBC Code 83/90/00 ch.11);
- (DI) 1.1.2.23 confirming that suitable portable fire-extinguishing equipment for the cargoes to be carried is provided in the cargo area (IBC Code 83/90/00 ch.11);
- (DI) 1.1.2.24 examining, and confirming the satisfactory operation of, the arrangements for the mechanical ventilation of spaces in the cargo area normally entered during cargo handling operations (IBC Code 83/90/00 ch.12) and checking in particular that:
 - (DI) 1.1.2.24.1 it may be controlled from outside the space;

- (DI) 1.1.2.24.2 warning notices concerning its use have been posted;
- (DI) 1.1.2.24.3 it is of the extraction type, with extraction from below the floor plates, unless the space houses electrical motors driving cargo pumps when it should be of the positive pressure type;
- (DI) 1.1.2.24.4 the ducting does not pass through accommodation, machinery and service spaces and that the exhaust ducts are clear of the ventilation inlets and openings to such spaces;
- (DI) 1.1.2.24.5 the electric motors driving ventilation fans are positioned outside the ventilation ducts and the ventilation fans and the ducts, in way of the fans only, are of non-sparking construction in hazardous locations;
- (DI) 1.1.2.25 examining, and confirming the satisfactory operation of, the arrangements for the mechanical ventilation of spaces normally entered, other than those covered by (DI) 1.1.2.24 (IBC Code 83/90/00 ch.12);
- (DI) 1.1.2.26 confirming that double bottoms, cofferdams, duct keels, pipe tunnels, hold spaces and other spaces where cargo may accumulate are capable of being efficiently ventilated to ensure a safe environment when entry into the space is necessary and that, when appropriate, permanent ducting is provided and any ventilation fans comply with (DI) 1.1.2.24.5 (IBC Code 83/90/00 ch.12);
- (DI) 1.1.2.27 examining the intrinsically safe systems and circuits used for measurement, monitoring, control and communication purposes in all hazardous locations (IBC Code 83/90/00 ch.13);
- (DI) 1.1.2.28 checking the provision of equipment for personnel protection (IBC Code 83/90/00 ch.14) and in particular that:
 - (DI) 1.1.2.28.1 suitable protective clothing is available for the crew engaged in loading and discharging operations and that suitable storage is provided;
 - (DI) 1.1.2.28.2 the required safety equipment and associated breathing apparatus and air supplies and, when appropriate, emergency-escape respiratory and eye protection, are provided and are properly stowed;
 - (DI) 1.1.2.28.3 medical first-aid equipment, including stretchers and oxygen resuscitation equipment are provided;
 - (DI) 1.1.2.28.4 arrangements have been made for the antidotes for the cargoes actually carried to be on board;
 - (DI) 1.1.2.28.5 decontamination arrangements and eyewashes are operational;
 - (DI) 1.1.2.28.6 the required gas detection instruments are on board and that arrangements have been made for the supply of the appropriate vapour detection tubes;
 - (DI) 1.1.2.28.7 the stowage for cargo samples is satisfactory;
- (DI) 1.1.2.29 the provisions of (NI) 2.1.2 in annex 3; and

- (DI) 1.1.2.30 confirming that sampling points or detector heads are located in suitable positions in order that potentially dangerous leakages are readily detected (IBC Code 07 ch.11.1.4, BCH Code ch.III, E 3.13).
- (DI) 1.1.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, the check that all the required documentation has been placed on board the ship should consist of:
- (DI) 1.1.3.1 confirming that a loading and stability information booklet, containing details of typical service and ballast conditions, provisions for evaluating other conditions of loading, a summary of the ship's survival capabilities and sufficient information to ensure that the ship is loaded and operated in a safe and seaworthy manner, is available on board (IBC Code 83/90/00/14 ch.2);
- (DI) 1.1.3.2 confirming that damage survival capability information is supplied on the basis of loading information for all anticipated conditions of loading and variations in draught and trim (IBC Code 83/90/00 ch.2);
- (DI) 1.1.3.3 confirming that a table giving the filling ratios for the cargo tanks at various densities has been provided (IBC Code 83/90/00 ch.16);
- (DI) 1.1.3.4 confirming that a copy of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, or the equivalent national regulations, has been provided (IBC Code 83/90/00 ch.16);
- (DI) 1.1.3.5 confirming that information relating to the chemical and physical properties of the products to be carried has been provided and that provision has been made for the measures to be taken in an accident (IBC Code 83/90/00 ch.16);
- (DI) 1.1.3.6 confirming that a manual covering procedures for cargo transfer, tank cleaning, gas freeing, ballasting, etc. has been provided (IBC Code 83/90/00 ch.16);
- (DI) 1.1.3.7 the provisions of (NI) 2.1.3 in annex 3;
- (DI) 1.1.3.8 confirming that compatibility information as to material of construction, protective linings and coating is provided on board (IBC Code 83/04 ch.6);
- (DI) 1.1.3.9 confirming, where applicable, that the stability instrument has been approved and is operating satisfactorily (IBC Code 83/90/00/14 ch.2); and
- (DI) 1.1.3.10 confirming, when a dispensation from carriage of a stability instrument applies, that the alternative means of verification for intact and damage stability is recorded on the Certificate of Fitness and is being applied effectively (IBC Code 83/90/00/14 ch.2).
- (DI) 1.1.4 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the completion of the initial survey should consist of:

- (DI) 1.1.4.1 after a satisfactory survey issuing the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.
- (DA) **1.2 Annual surveys** – see part "General" section 4.2
- (DA) 1.2.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the examination of current certificates and other records should consist of:
- (DA) 1.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (DA) 1.2.1.2 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (DA) 1.2.1.3 checking the validity of the International Ship Security Certificate;
- (DA) 1.2.1.4 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (DA) 1.2.1.5 checking the validity of the International Oil Pollution Prevention Certificate;
- (DA) 1.2.1.6 checking the certificates of class, if the ship is classed with a classification society;
- (DA) 1.2.1.7 checking, when appropriate, the validity of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk;
- (DA) 1.2.1.8 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (DA) 1.2.1.9 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (DA) 1.2.1.10 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (DA) 1.2.1.11 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5)*;
- (DA) 1.2.1.12 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (DA) 1.2.1.13 checking, when appropriate, the validity of the International Ballast Water Management Certificate;
- (DA) 1.2.1.14 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (DA) 1.2.1.15 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (DA) 1.2.1.16 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (DA) 1.2.1.17 confirming that the loading and stability information booklet, containing details of typical service and ballast conditions, provisions for evaluating other conditions of loading, a summary of the ship's survival capabilities and sufficient information to ensure that the ship is loaded and operated in a safe and seaworthy manner, is available on board (IBC Code 83/90/00/14 ch.2) (BCH Code 85/90/00/14 para.2.2.1);
- (DA) 1.2.1.18 confirming that damage survival capability information is supplied on the basis of loading information for all anticipated conditions of loading and variations in draught and trim (IBC Code 83/90/00 ch.2) (No BCH Code 85/90/00 reference);
- (DA) 1.2.1.19 confirming that a table giving the filling ratios for the cargo tanks at various densities has been provided (IBC Code 83/90/00 ch.16) (BCH Code 85/90/00 ch.III, part G);
- (DA) 1.2.1.20 confirming that a copy of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk or the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, or the equivalent national regulations, has been provided (IBC Code 83/90/00 ch.16) (BCH Code 85/90/00 ch.V);
- (DA) 1.2.1.21 confirming that information relating to the chemical and physical properties of the products to be carried has been provided, and that provision has been made for the measures to be taken in an accident (IBC Code 83/90/00 ch.16) (BCH Code 85/90/00 ch.V);
- (DA) 1.2.1.22 confirming that a manual covering procedures for cargo transfer, tank cleaning, gas freeing, ballasting, etc. has been provided (IBC Code 83/90/00 ch.16) (BCH Code 85/90/00 ch.V);
- (DA) 1.2.1.23 confirming that the Procedures and Arrangements Manual is on board (IBC Code 83/90/00 ch.16A) (BCH Code 85/90/00 ch.VA);
- (DA) 1.2.1.24 confirming that the shipboard marine pollution emergency plan is on board (MARPOL 04 Annex II, reg.17);
- (DA) 1.2.1.25 confirming that the Cargo Record Book is on board and being correctly used (MARPOL 04 Annex II, reg.15);

- (DA) 1.2.1.26 confirming that compatibility information as to material of construction, protective linings and coating is provided on board (IBC Code 83/04 ch.6) (BCH Code 85/90/00 ch.II, part G);
- (DA) 1.2.1.27 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable.
- (DA) 1.2.1.28 confirming, where applicable, that the approved stability instrument is available on board and operating satisfactorily (IBC Code 83/90/00/14 ch.2); and
- (DA) 1.2.1.29 confirming, when a dispensation from carriage of a stability instrument applies, that the alternative means of verification for intact and damage stability recorded on the Certificate of Fitness is available on board and being applied effectively (IBC Code 83/90/00/14 ch.2).
- (DA) 1.2.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the annual survey of the structure, equipment, fittings, arrangements and materials should consist of:
- (DA) 1.2.2.1 confirming that wheelhouse doors and windows, sidescuttles and windows in superstructure and deckhouse ends facing the cargo area are in a satisfactory condition (IBC Code 83/90/00 ch.3) (BCH Code 85/90/00 ch.IIC);
- (DA) 1.2.2.2 confirming that potential sources of ignition in or near the cargo pump-room are eliminated, such as loose gear and combustible materials, that there are no signs of undue leakage and that access ladders are in a satisfactory condition (IBC Code 83/90/00 ch.3) (BCH Code 85/90/00 ch.IIC);
- (DA) 1.2.2.3 confirming that removable pipe lengths or other approved equipment necessary for cargo separation are available in the pump-room and are in a satisfactory condition (IBC Code 83/90/00 ch.3) (BCH Code 85/90/00 ch.IIC);
- (DA) 1.2.2.4 examining all pump-room bulkheads for signs of cargo leakage or fractures and, in particular, the sealing arrangements of all penetrations of pump-room bulkheads (IBC Code 83/90/00 ch.3) (BCH Code 85/90/00 ch.IIC);
- (DA) 1.2.2.5 confirming that the remote operation of the cargo pump bilge system is satisfactory (IBC Code 83/90/00 ch.3) (BCH Code 85/90 ch.IIC);
- (DA) 1.2.2.6 examining the bilge and ballast arrangements and confirming that pumps and pipelines are identified (IBC Code 83/90/00 ch.3) (No BCH Code 85/90/00 reference);
- (DA) 1.2.2.7 confirming, when applicable, that the bow or stern loading and unloading arrangements are in order and testing the means of communication and the remote shut down for the cargo pumps (IBC Code 83/90/00 ch.3) (No BCH Code 85/90/00 reference);

- (DA) 1.2.2.8 examining the cargo transfer arrangements and confirming that any hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing (IBC Code 83/90/00 ch.5) (BCH Code 85/90/00 ch.IID);
- (DA) 1.2.2.9 examining, when applicable, the cargo heating or cooling systems, including any sampling arrangements, and confirming that the means for measuring the temperature and associated alarms are operating satisfactorily (IBC Code 83/90/00 ch.7) (BCH Code 85/90/00 ch.IIF);
- (DA) 1.2.2.10 examining, as far as practicable, the cargo tank vent system, including the pressure/vacuum valves and secondary means to prevent over- or under-pressure and devices to prevent the passage of flame, and the arrangements of cargo tank purging with inert gas, as applicable (IBC Code 83/90/99/00/14 ch.8,) (BCH Code 85/90/99/00 ch.IIE);
- (DA) 1.2.2.11 examining the gauging devices, high-level alarms and valves associated with overflow control (IBC Code 83/90/00 ch.8) (BCH Code 85/90/00 ch.IIE);
- (DA) 1.2.2.12 confirming that arrangements for sufficient gas to be carried or generated to compensate for normal losses, and that the means provided for monitoring ullage spaces, are satisfactory (IBC Code 83/90/00 ch.9) (BCH Code 85/90/00 ch.IIH);
- (DA) 1.2.2.13 confirming that arrangements are made for sufficient medium to be carried where drying agents are used on air inlets to cargo tanks (IBC Code 83/90/00 ch.9) (BCH Code 85/90/00 ch.IIH);
- (DA) 1.2.2.14 confirming that all electrical equipment in dangerous zones is suitable for such locations, is in satisfactory condition and has been properly maintained (IBC Code 83/90/00 ch.10) (BCH Code 85/90/00 ch.IIIB);
- (DA) 1.2.2.15 examining the fixed fire-fighting system for the cargo pump-room and the deck foam system for the cargo area and confirming that their means of operation are clearly marked (IBC Code 83/90/00 ch.11) (BCH Code 85/90/00 ch.IIIE);
- (DA) 1.2.2.16 confirming that the condition of the portable fire-extinguishing equipment for the cargoes to be carried in the cargo area is satisfactory (IBC Code 83/90/00 ch.11) (BCH Code 85/90/00 ch.IIIE);
- (DA) 1.2.2.17 confirming that the system for continuous monitoring of the concentration of flammable vapours is satisfactory (IBC Code 83/90/00 ch.11);
- (DA) 1.2.2.18 examining, as far as practicable, and confirming the satisfactory operation of, the arrangements for the ventilation of spaces normally entered during cargo handling operations and other spaces in the cargo area (IBC Code 83/90/00 ch.12) (BCH Code 85/90/00 ch.IIIA);
- (DA) 1.2.2.19 confirming, as far as practicable, that the intrinsically safe systems and circuits used for measurement, monitoring, control and communication purposes in all hazardous locations are being properly maintained (IBC Code 83/90/00 ch.13) (BCH Code 85/90/00 ch.IIIC);

- (DA) 1.2.2.20 examining the equipment for personnel protection (IBC Code 83/90/00 ch.14) (BCH Code 85/90/00 ch.IIIF) and in particular that:
- (DA) 1.2.2.20.1 the protective clothing for crew engaged in loading and discharging operations and its stowage is in a satisfactory condition;
- (DA) 1.2.2.20.2 the required safety equipment and associated breathing apparatus and associated air supplies and, when appropriate, emergency-escape respiratory and eye protection, are in a satisfactory condition and are properly stowed;
- (DA) 1.2.2.20.3 medical first-aid equipment, including stretchers and oxygen resuscitation equipment are in a satisfactory condition;
- (DA) 1.2.2.20.4 arrangements have been made for the antidotes for the cargoes actually carried to be on board;
- (DA) 1.2.2.20.5 decontamination arrangements and eyewashes are operational;
- (DA) 1.2.2.20.6 the required gas detection instruments are on board and arrangements have been made for the supply of the appropriate vapour detection tubes;
- (DA) 1.2.2.20.7 the arrangements for the stowage of cargo samples are satisfactory;
- (DA) 1.2.2.21 the provisions of (NA) 2.2.2 in annex 3; and
- (DA) 1.2.2.22 confirming that sampling points or detector heads are located in suitable positions in order that potentially dangerous leakages are readily detected (IBC Code 07 ch.11.1.4) (BCH Code ch.III E 3.13).
- (DA) 1.2.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the completion of the annual survey should consist of:
- (DA) 1.2.3.1 after a satisfactory survey, endorsing the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk; and
- (DA) 1.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory – see part "General" section 4.8.
- (DIn) **1.3 Intermediate surveys** – see part "General", section 4.3
- (DIn) 1.3.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the examination of current certificates and other records should consist of:
- (DIn) 1.3.1.1 the provisions of (DA) 1.2.1.

- (DIn) 1.3.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the intermediate survey of the structure, equipment, fittings, arrangements and materials should consist of:
- (DIn) 1.3.2.1 the provisions of (DA) 1.2.2;
- (DIn) 1.3.2.2 examining vent line drainage arrangements (IBC Code 83/90/00 ch.8) (BCH Code 85/90/00 ch.IIE);
- (DIn) 1.3.2.3 confirming, where applicable, that pipelines and independent cargo tanks are electrically bonded to the hull (IBC Code 83/90/00 ch.10) (BCH Code 85/90/00 ch.IIIB);
- (DIn) 1.3.2.4 generally examining the electrical equipment and cables in dangerous zones such as cargo pump-rooms and areas adjacent to cargo tanks to check for defective equipment, fixtures and wiring; the insulation resistance of the circuits should be tested and in cases where a proper record of testing is maintained, consideration should be given to accepting recent readings (IBC Code 83/90/00 ch.10) (BCH Code 85/90/00 ch.IIIB);
- (DIn) 1.3.2.5 confirming that spares are provided for cargo area mechanical ventilation fans (IBC Code 83/90/00 ch.12) (BCH Code 85/90/00 ch.IIIA); and
- (DIn) 1.3.2.6 the provisions of (NIn) 2.3.2 in annex 3.
- (DIn) 1.3.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the completion of the intermediate survey should consist of:
- (DIn) 1.3.3.1 after a satisfactory survey, endorsing the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk; and
- (DIn) 1.3.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory – see part "General", section 4.8.
- (DR) 1.4 **Renewal surveys** – see part "General" section 4.4
- (DR) 1.4.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the examination of current certificates and other records should consist of:
- (DR) 1.4.1.1 the provisions of (DA) 1.2.1, except the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.

- (DR) 1.4.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the renewal survey of the structure, equipment, fittings, arrangements and materials should consist of:
- (DR) 1.4.2.1 the provisions of (DIn) 1.3.3; and
- (DR) 1.4.2.2 the provisions of (NR) 2.4.2 in annex 3.
- (DR) 1.4.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk the completion of the renewal survey should consist of:
- (DR) 1.4.3.1 after a satisfactory survey, issuing the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.
- (G) 2 GUIDELINES FOR SURVEYS FOR THE INTERNATIONAL CERTIFICATE OF FITNESS FOR THE CARRIAGE OF LIQUEFIED GASES IN BULK**
- (GI) 2.1 **Initial surveys** – see part "General", section 4.1.
- (GI) 2.1.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the examination of plans and designs of the structure, equipment, fittings, arrangements and materials should consist of:
- (GI) 2.1.1.1 determining the products that it is intended that the ship will be permitted to carry and noting the corresponding minimum special requirements (IGC Code 83/90/00/14 ch.19);
- (GI) 2.1.1.2 examining the plans for the ship type, cargo containment, control of vapour space within the cargo tanks, vapour detection, gauging, personnel protection, filling limits for cargo tanks and other special requirements (IGC Code 83/90/00/14 chs.2, 4, 6, 13, 14, 15, and 17);
- (GI) 2.1.1.3 examining the plans for the freeboard, and survival capability (IGC Code 83/90/00/14 ch.2; IS Code chs.1, 2 and 3);
- (GI) 2.1.1.4 examining the plans for the ship arrangements (IGC Code 83/90/00/14 ch.3);
- (GI) 2.1.1.5 examining, where applicable, the approved documentation for the alternative design and arrangements for the segregation of the cargo area (IGC Code 83/90/00/14 ch.3; SOLAS 74/00/06 reg.II-2/17);
- (GI) 2.1.1.6 examining the plans for the process pressure vessels and liquid, vapour and pressure piping systems (IGC Code 83/90/00/14 chs.5 and 6);
- (GI) 2.1.1.7 examining the plans for the cargo pressure/temperature control (IGC Code 83/90/00/14 ch.7);

- (GI) 2.1.1.8 examining the plans for the cargo tank ventilation systems (IGC Code 83/90/00/14 ch.8);
- (GI) 2.1.1.9 examining the plans for the cargo containment system atmosphere control (IGC Code 83/90/00 ch.9);
- (GI) 2.1.1.10 examining the plans for the electrical installations (IGC Code 83/90/00/14 ch.10);
- (GI) 2.1.1.11 examining the plans for fire protection and fire extinction equipment (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.1.12 examining the plans for the artificial ventilation in the cargo area (IGC Code 83/90/00/14 ch.12);
- (GI) 2.1.1.13 examining the plans for the instrumentation and automation systems (IGC Code 83/90/00/14 ch.13);
- (GI) 2.1.1.14 examining, when applicable, the plans for the use of cargo as fuel (IGC Code 83/90/00/14 ch.16);
- (GI) 2.1.1.15 examining, where applicable, the stability instrument (IGC Code 83/90/00/14 ch.2); and
- (GI) 2.1.1.16 examining, when a dispensation from carriage of a stability instrument applies, the alternative means of verification for intact and damage stability (IGC Code 83/90/00/14 ch.2).
- (GI) 2.1.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the survey during construction and after installation of the structure, equipment, fittings, arrangements and materials should consist of:
 - (GI) 2.1.2.1 confirming that the segregation in the cargo area and the arrangement of the accommodation, service and machinery spaces are in accordance with the approved plans (IGC Code 83/90/00/14 ch.3);
 - (GI) 2.1.2.2 examining, where applicable, the alternative design and arrangements for the segregation of the cargo area, in accordance with the test and inspection requirements, if any, specified in the approved documentation (IGC Code 83/90/00/14 ch.3; SOLAS 74/00/06 reg.II-2/17);
 - (GI) 2.1.2.3 examining the arrangements of the cargo machinery spaces and turret compartments, including their escape routes (IGC Code 83/90/00/14 ch.3);
 - (GI) 2.1.2.4 confirming that the manually operated ESD (emergency shutdown) system together with the automatic shutdown of the cargo pumps and compressors are satisfactory (IGC Code 83/90/00/14 chs.5 and 18);
 - (GI) 2.1.2.5 examining the arrangement of the cargo control room (IGC Code 83/90/00/14 ch.3);
 - (GI) 2.1.2.6 examining the accesses to spaces in the cargo area (IGC Code 83/90/00/14 ch.3);

- (GI) 2.1.2.7 confirming the arrangements for the air locks (IGC Code 83/90/00/14 ch.3);
- (GI) 2.1.2.8 examining the bilge, ballast and oil fuel arrangements (IGC Code 83/90/00/14 ch.3);
- (GI) 2.1.2.9 examining, when applicable, the bow or stern loading and unloading arrangements with particular reference to the air inlets and entrances to the accommodation, machinery and service spaces, the electrical equipment, fire-fighting arrangements and means of communication between the cargo control room and the shore location (IGC Code 83/90/00/14 ch.3);
- (GI) 2.1.2.10 confirming that the cargo tanks are arranged and installed in accordance with the approved plans, internally examining the cargo tanks, water ballast tanks and other spaces in the cargo area, ensuring that the appropriate non-destructive and pressure testing are carried out (IGC Code 83/90/00/14 ch.4);
- (GI) 2.1.2.11 for containment systems with glued secondary barriers, confirming that a tightness test has been carried out in accordance with the approved procedures of the system manufacturer before and after the initial cool down; where the designer's threshold values are exceeded, confirming that an investigation and additional testing, such as, thermographic or acoustic emission testing, has been carried out (IGC Code 83/90/00/14 ch.4);
- (GI) 2.1.2.12 examining during the initial cool down, loading and discharging of the first cargo, the overall performance of the cargo containment system and confirming that the system is in compliance with the design parameters; for vessels carrying liquefied natural gas, the examination includes witnessing the satisfactory operation of the following systems, if fitted:
 - (GI) 2.1.2.12.1 gas detection system;
 - (GI) 2.1.2.12.2 cargo control and monitoring systems such as level gauging equipment, temperature sensors, pressure gauges, cargo pumps, compressors, and proper control of cargo heat exchanges, if operating;
 - (GI) 2.1.2.12.3 nitrogen generating plant and/or inert gas generator;
 - (GI) 2.1.2.12.4 nitrogen pressure control systems for interbarrier, insulation and other annular spaces;
 - (GI) 2.1.2.12.5 re-liquefaction plant;
 - (GI) 2.1.2.12.6 equipment fitted for the burning of cargo vapours, such as boilers, multi-fuel engines or gas combustion units;
 - (GI) 2.1.2.12.7 cofferdam heating systems;
 - (GI) 2.1.2.12.8 on-deck cargo piping systems including expansion and supporting arrangements;
 - (GI) 2.1.2.12.9 high-level alarms, by witnessing topping-off process for cargo tanks (IGC Code 83/90/00/14 ch.13);

- (GI) 2.1.2.13 examining the cargo containment system for cold spots during, or immediately following, the first loaded voyage (IGC Code 83/90/00/14 ch.4);
- (GI) 2.1.2.14 examining the cargo and process piping, including the expansion arrangements, insulation from the hull structure, pressure relief and drainage arrangements, water curtain protection as appropriate, and carrying out a leak detection test (IGC Code 83/90/00/14 ch.5);
- (GI) 2.1.2.15 confirming that the cargo system valving arrangements are in accordance with the approved plans (IGC Code 83/90/00/14 ch.5);
- (GI) 2.1.2.16 confirming that any liquid and vapour hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing (IGC Code 83/90/00/14 ch.5);
- (GI) 2.1.2.17 examining the arrangements for the cargo pressure/temperature control including, when fitted, the thermal oxidation systems or any refrigeration system and confirming that any associated safety measures and alarms are satisfactory (IGC Code 83/90/00/14 ch.7);
- (GI) 2.1.2.18 confirming that the cargo tank vent systems, including the pressure relief systems and vacuum protection systems, have been installed in accordance with the approved plans, and that the PRVs are type-approved or marked with date of testing (IGC Code 83/90/00/14 ch.8);
- (GI) 2.1.2.19 examining the arrangements for the cargo containment system atmosphere control and environmental control of spaces surrounding type C independent tanks, including the means of storing or generating and drying an inert gas (IGC Code 83/90/00/14 ch.9);
- (GI) 2.1.2.20 examining the electrical installations with particular reference to the certified safe type equipment fitted in gas-dangerous spaces and zones (IGC Code 83/90/00/14 ch.10);
- (GI) 2.1.2.21 examining the arrangements for the fire protection and fire extinction (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.2.22 examining the fixed fire-fighting system for the enclosed cargo machinery spaces and the enclosed cargo motor room, and confirming that the installation tests have been satisfactorily completed and that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.2.23 examining the fire water main with particular reference to the provision of hydrants and isolation arrangements, checking that the two jets of water reach all areas of the cargo and containment area, at the required pressure and testing the remote means of starting one main fire pump (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.2.24 examining and testing the water spray system for cooling, fire protection and crew protection and confirming that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);

- (GI) 2.1.2.25 examining and testing the dry chemical powder fire-extinguishing system for the cargo area, seeing that the fixed piping has been properly installed and has been proved clear and confirming that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.2.26 examining the appropriate fire-extinguishing system for the enclosed cargo machinery spaces for ships that are dedicated to the carriage of a restricted number of cargoes and the internal water spray system for the turret compartments, and confirming that the installation tests have been satisfactorily completed and that their means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GI) 2.1.2.27 confirming the provision and examining the disposition of the fire-fighters' outfits including their self-contained compressed air breathing apparatus, and the provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (IGC Code 83/90/00/14 ch.11) (SOLAS 74/00/12 regs.II-2/10.10; FSS Code ch.3);
- (GI) 2.1.2.28 examining, and confirming the satisfactory operation of, the arrangements for the artificial ventilation of spaces in the cargo area normally entered during cargo handling operations (IGC Code 83/90/00/14 ch.12) and checking in particular that:
- (GI) 2.1.2.28.1 it may be controlled from outside the space;
- (GI) 2.1.2.28.2 warning notices concerning its use have been posted;
- (GI) 2.1.2.28.3 it is fixed and is of the negative pressure type, permitting extraction from either the upper or lower parts of the space or from both the upper and lower parts when appropriate, for cargo compressor and pump-rooms and for cargo control rooms when considered to be in hazardous areas;
- (GI) 2.1.2.28.4 it is of the positive pressure type for spaces containing electric motors driving cargo compressors or pumps and other non-hazardous spaces within the cargo area, except those containing inert gas generators;
- (GI) 2.1.2.28.5 exhaust ducts are clear of the ventilation inlets and openings to accommodation spaces, service spaces, control stations and other non-hazardous spaces;
- (GI) 2.1.2.28.6 intakes are arranged to minimize the recycling or hazardous vapours;
- (GI) 2.1.2.28.7 ducts from hazardous areas are not led through accommodation, service and machinery spaces and control stations, except when (GI) 2.1.2.36 applies;
- (GI) 2.1.2.28.8 the electric motors driving ventilation fans are positioned outside the ventilation ducts when the carriage of flammable products is intended and the ventilation fans and the ducts, in way of the fans only, are of non-sparking construction in hazardous areas;

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- (GI) 2.1.2.29 examining, and confirming the satisfactory operation of, the arrangements for the artificial ventilation of spaces normally entered other than those covered by (GI) 2.1.2.28 (IGC Code 83/90/00/14 ch.12);
- (GI) 2.1.2.30 examining, and testing as appropriate, the liquid level indicators, overflow control, pressure gauges, high pressure and, when applicable, low pressure alarms, and temperature indicating devices for the cargo tanks (IGC Code 83/90/00/14 ch.13);
- (GI) 2.1.2.31 examining, and testing as appropriate, the permanently installed gas detection equipment (IGC Code 83/90/00/14 ch.13);
- (GI) 2.1.2.32 examining, and testing as appropriate, the oxygen-deficiency monitoring equipment (IGC Code 14 ch.13);
- (GI) 2.1.2.33 confirming that two sets of portable gas detection equipment suitable for the cargoes to be carried and a suitable instrument for measuring oxygen levels have been provided (IGC Code 83/90/00/14 ch.13);
- (GI) 2.1.2.34 examining, as appropriate, the automation systems used to provide instrumented control, monitoring/alarm or safety functions (IGC Code 14 ch.13);
- (GI) 2.1.2.35 checking the provision of equipment for personnel protection (IGC Code 83/90/00/14 ch.14) and in particular that:
- (GI) 2.1.2.35.1 suitable protective equipment, including eye protection, is provided for protection of crew members engaged in normal cargo operations, and properly stowed;
- (GI) 2.1.2.35.2 sufficient, but not less than three complete sets of safety equipment each permitting personnel to enter and work in a gas-filled space are provided and are properly stowed;
- (GI) 2.1.2.35.3 an adequate supply of compressed air is provided and that the spare air bottle, air compressor and charging manifold are provided and properly stowed;
- (GI) 2.1.2.35.4 a stretcher and the medical first-aid equipment, including oxygen resuscitation equipment, when available, for the products to be carried are provided;
- (GI) 2.1.2.35.5 respiratory and eye protection suitable for emergency escape purposes are provided and properly stowed;
- (GI) 2.1.2.35.6 decontamination arrangements and eyewashes are operational;
- (GI) 2.1.2.36 examining, when applicable, the arrangements for the use of cargo as fuel and testing that the gas supply to the space containing gas consumers is cut off should the double-wall concentric pipes lose the inert gas pressure or the exhaust ventilation not be functioning correctly, and that the master gas fuel valve may be manually closed from within the space, and at least one remote location (IGC Code 83/90/00/14 ch.16).

- (GI) 2.1.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the check that all the required documentation has been placed on board the ship should consist of:
- (GI) 2.1.3.1 confirming that a loading and stability information booklet, containing details of typical service and ballast conditions, provisions for evaluating other conditions of loading, a summary of the ship's survival capabilities and sufficient information to ensure that the ship is loaded and operated in a safe and seaworthy manner, is available on board (IGC Code 83/90/00/14 ch.2; IS Code chs.1, 2 and 3);
- (GI) 2.1.3.2 confirming that damage survival capability information is supplied on the basis of loading information for all anticipated conditions of loading and variations in draught and trim (IGC Code 83/90/00/14 ch.2);
- (GI) 2.1.3.3 confirming that, where applicable, the approved documentation for the alternative design and arrangements for the segregation of the cargo area is on board (IGC Code 83/90/00/14 ch.3; SOLAS 74/00/06 reg.II-2/17);
- (GI) 2.1.3.4 confirming that, where applicable, the evaluation certificate* for the adequacy of type C tank vent systems is provided (IGC Code 83/90/00/14 ch.8);
- (GI) 2.1.3.5 confirming that the approved document for the maximum allowable loading limits together with PRVs setting pressures is on board (IGC Code 83/90/00/14 ch.15);
- (GI) 2.1.3.6 confirming that necessary information for the safe carriage of the products to be carried has been provided (IGC Code 83/90/00/14 ch.18);
- (GI) 2.1.3.7 confirming that the approved cargo operations manuals, including relevant procedures for ESD system and emergency isolating operations of PRVs, has been provided (IGC Code 14 ch.18);
- (GI) 2.1.3.8 confirming that a copy of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, or the equivalent national regulations, has been provided (IGC Code 83/90/00/14 ch.18);
- (GI) 2.1.3.9 confirming, where applicable, that the stability instrument has been approved and is operating satisfactorily (IGC Code 83/90/00/14 ch.2); and
- (GI) 2.1.3.10 confirming, when a dispensation from carriage of a stability instrument applies, that the alternative means of verification for intact and damage stability is recorded on the Certificate of Fitness and is being applied effectively (IGC Code 83/90/00/14 ch.2).
- (GI) 2.1.4 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the completion of the initial survey should consist of:

* Refer to the *Guidelines for the evaluation of the adequacy of type C tank vent systems* (resolution A.829(19)).

- (GI) 2.1.4.1 after a satisfactory survey, issuing the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk.
- (GA) **2.2** **Annual surveys** – see part "General", section 4.2.
- (GA) 2.2.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the examination of current certificates and other records should consist of:
- (GA) 2.2.1.1 checking the validity, as appropriate, of the Cargo Ship Safety Equipment Certificate, the Cargo Ship Safety Radio Certificate and the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate;
- (GA) 2.2.1.2 checking the validity of the Safety Management Certificate (SMC) and that a copy of the Document of Compliance (DOC) is on board;
- (GA) 2.2.1.3 checking the validity of the International Ship Security Certificate;
- (GA) 2.2.1.4 checking the validity of the International Load Line Certificate or International Load Line Exemption Certificate;
- (GA) 2.2.1.5 checking the validity of the International Oil Pollution Prevention Certificate;
- (GA) 2.2.1.6 checking the certificates of class, if the ship is classed with a classification society;
- (GA) 2.2.1.7 checking the validity of the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk;
- (GA) 2.2.1.8 checking, when appropriate, the validity of the International Sewage Pollution Prevention Certificate;
- (GA) 2.2.1.9 checking, when appropriate, the validity of the International Air Pollution Prevention Certificate;
- (GA) 2.2.1.10 confirming, when appropriate, the validity of the International Energy Efficiency Certificate (MARPOL Annex VI, regs.6.4 and 6.5);
- (GA) 2.2.1.11 confirming, when appropriate, that confirmation of compliance for the SEEMP part II is provided to and retained on board the ship (MARPOL Annex VI, reg. 5.4.5);*
- (GA) 2.2.1.12 confirming, when appropriate, the validity of the Statements of Compliance related to fuel oil consumption reporting (MARPOL Annex VI, regs.6.6 and 6.7);
- (GA) 2.2.1.13 checking, when appropriate, the validity of the International Ballast Water Management Certificate;

* Refer to the *Sample Format of Confirmation of Compliance, Early Submission of the SEEMP part II on the ship fuel oil consumption data collection plan and its timely verification pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).

- (GA) 2.2.1.14 checking that the ship's complement complies with the Minimum Safe Manning Document (SOLAS 74/00/12 reg.V/14) (SOLAS 74/88 reg.V/13(b));
- (GA) 2.2.1.15 checking that the master, officers and ratings are certificated as required by the STCW Convention;
- (GA) 2.2.1.16 checking whether any new equipment has been fitted and, if so, confirming that it has been approved before installation and that any changes are reflected in the appropriate certificate;
- (GA) 2.2.1.17 confirming that the loading and stability information booklet, containing details of typical service and ballast conditions, provisions for evaluating other conditions of loading, a summary of the ship's survival capabilities and sufficient information to ensure that the ship is loaded and operated in a safe and seaworthy manner, is available on board (IGC Code 83/90/00/14 ch.2; IS Code chs.1, 2 and 3);
- (GA) 2.2.1.18 confirming that damage survival capability information is supplied on the basis of loading information for all anticipated conditions of loading and variations in draught and trim (IGC Code 83/90/00/14 ch.2);
- (GA) 2.2.1.19 confirming that, where applicable, the approved documentation for the alternative design and arrangements for the segregation of the cargo area is on board (IGC Code 83/90/00/14 ch.3; SOLAS 74/00/06 reg.II-2/17);
- (GA) 2.2.1.20 confirming that, where applicable, the evaluation certificate* for the adequacy of type C tank vent systems is provided (IGC Code 83/90/00/14 ch.8);
- (GA) 2.2.1.21 checking the logbook entries to confirm whether any changes were made in setting the pressure of PRVs or any emergency isolation action effected in the event of a failure of a cargo tank-installed PRV, and confirming that signs are posted in the cargo control room, if provided, and at each PRV (IGC 83/90/00/14 ch.8);
- (GA) 2.2.1.22 confirming that the approved document for the maximum allowable loading limits together with PRVs setting pressures is on board (IGC Code 83/90/00/14 ch.15);
- (GA) 2.2.1.23 confirming that necessary information for the safe carriage of the products to be carried has been provided (IGC Code 83/90/00/14 ch.18);
- (GA) 2.2.1.24 confirming that the approved cargo operations manuals, including relevant procedures for ESD system and emergency isolating operations of PRVs, have been provided (IGC Code 14 ch.18);
- (GA) 2.2.1.25 confirming that a copy of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, or the equivalent national regulations, has been provided (IGC Code 83/90/00/14 ch.18);

* Refer to the *Guidelines for the evaluation of the adequacy of type C tank vent systems* (resolution A.829(19)).

- (GA) 2.2.1.26 confirming that there are records of the performance of the cargo containment system (IGC Code 83/90/00/14 ch.4);
- (GA) 2.2.1.27 confirming the availability of the International Anti-fouling System Certificate (AFS 2001 annex 4 reg.2), when applicable;
- (GA) 2.2.1.28 confirming, where applicable, the approved stability instrument is available on board and operating satisfactorily (IGC Code 83/90/00/14, ch.2); and
- (GA) 2.2.1.29 confirming, when a dispensation from carriage of a stability instrument applies, that the alternative means of verification for intact and damage stability recorded on the Certificate of Fitness is available on board and being applied effectively (IGC Code 83/90/00/14, ch.2).
- (GA) 2.2.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the annual survey of the structure, equipment, fittings, arrangements and materials should consist of:
 - (GA) 2.2.2.1 confirming that any special arrangements to survive conditions of damage are in order (IGC Code 83/90/00/14 ch.2);
 - (GA) 2.2.2.2 examining, where applicable, the alternative design and arrangements for the segregation of the cargo area, in accordance with the test, inspection and maintenance requirements, if any, specified in the approved documentation (IGC Code 83/90/00/14 ch.3; SOLAS 74/00/06 reg.II-2/17);
 - (GA) 2.2.2.3 confirming that the wheelhouse doors and windows, sidescuttles and windows in superstructure and deckhouse ends in the cargo area are in a satisfactory condition (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.4 examining the cargo machinery spaces and turret compartments, including their escape routes (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.5 confirming that the manually operated ESD (emergency shutdown) system together with the automatic shutdown of the cargo pumps and compressors are satisfactory (IGC Code 83/90/00/14 ch.5 and 18);
 - (GA) 2.2.2.6 examining the cargo control room (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.7 examining the gas detection arrangements for cargo control rooms and the measures taken to exclude ignition sources where such spaces are classified as hazardous areas (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.8 confirming that the arrangements for the air locks are being properly maintained (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.9 examining, as far as practicable, the bilge, ballast and oil fuel arrangements (IGC Code 83/90/00/14 ch.3);
 - (GA) 2.2.2.10 examining, when applicable, the bow or stern loading and unloading arrangements with particular reference to the electrical equipment, fire-fighting arrangements and means of communication between the cargo control room and the shore location (IGC Code 83/90/00/14 ch.3);

- (GA) 2.2.2.11 confirming that the sealing arrangements at the gas domes are satisfactory (IGC Code 83/90/00/14 ch.4);
- (GA) 2.2.2.12 confirming that portable or fixed drip trays or deck insulation for cargo leakage are in order (IGC Code 83/90/00/14 ch.4);
- (GA) 2.2.2.13 examining the cargo and process piping, including the expansion arrangements, insulation from the hull structure, pressure relief and drainage arrangements and water curtain protection as appropriate (IGC Code 83/90/00 ch.5);
- (GA) 2.2.2.14 confirming that the cargo tank and interbarrier space pressure and relief valves, including safety systems and alarms, are satisfactory (IGC Code 83/90/00/14 ch.5);
- (GA) 2.2.2.15 confirming that any liquid and vapour hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing (IGC Code 83/90/00/14 ch.5);
- (GA) 2.2.2.16 examining the arrangements for the cargo pressure/temperature control including, when fitted, the thermal oxidation systems and any refrigeration system, and confirming that any associated safety measures and alarms are satisfactory (IGC Code 83/90/00/14 ch.7);
- (GA) 2.2.2.17 examining the cargo, bunker, ballast and vent piping systems, including PRVs, vacuum relief valves, vent masts and protective screens, as far as practicable, and confirming that the PRVs are type-approved or marked with date of testing (IGC Code 83/90/00/14 chs.5 and 8);
- (GA) 2.2.2.18 confirming that arrangements are made for sufficient inert gas to be carried to compensate for normal losses and that means are provided for monitoring the spaces (IGC Code 83/90/00/14 ch.9);
- (GA) 2.2.2.19 confirming that the use of inert gas has not increased beyond that needed to compensate for normal losses by examining records of inert gas usage (IGC Code 83/90/00/14 ch.9);
- (GA) 2.2.2.20 confirming that any air-drying system and any interbarrier and hold space purging inert gas system are satisfactory (IGC Code 83/90/00/14 ch.9);
- (GA) 2.2.2.21 confirming that electrical equipment hazardous areas is in a satisfactory condition and is being properly maintained (IGC Code 83/90/00/14 ch.10);
- (GA) 2.2.2.22 examining the arrangements for the fire protection and fire extinction and testing the remote means of starting one main fire pump (IGC Code 83/90/00/14 ch.11);
- (GA) 2.2.2.23 examining the fixed fire-fighting system for enclosed cargo machinery spaces and for the enclosed cargo motor room within the cargo area, and confirming that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);

- (GA) 2.2.2.24 examining the water spray system for cooling, fire protection and crew protection and confirming that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GA) 2.2.2.25 examining the dry chemical powder fire-extinguishing system for the cargo area and confirming that its means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GA) 2.2.2.26 examining the appropriate fire-extinguishing system for the enclosed cargo machinery spaces for ships that are dedicated to the carriage of a restricted number of cargoes and the internal water spray system for the turret compartments, and confirming that their means of operation is clearly marked (IGC Code 83/90/00/14 ch.11);
- (GA) 2.2.2.27 confirming the provision and examining the condition of the fire-fighters' outfits including their self-contained compressed air breathing apparatus, and the provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe (IGC Code 83/90/00/14 ch.11) (SOLAS 74/00/12 regs.II-2/10.10;FSS Code ch.3);
- (GA) 2.2.2.28 examining, as far as practicable, and confirming the satisfactory operation of, the arrangements for the artificial ventilation of spaces in the cargo area normally entered during cargo handling operations (IGC Code 83/90/00/14 ch.12);
- (GA) 2.2.2.29 examining, and confirming the satisfactory operation of, the arrangements for the artificial ventilation of spaces normally entered other than those covered by (GI) 2.1.2.27 (IGC Code 83/90/00/14 ch.12);
- (GA) 2.2.2.30 examining, and testing as appropriate and as far as practicable, the liquid level indicators, overflow control, pressure gauges, high pressure and, when applicable, low pressure alarms, and temperature indicating devices for the cargo tanks (IGC Code 83/90/00/14 ch.13);
- (GA) 2.2.2.31 examining, and testing as appropriate, the gas detection equipment (IGC Code 83/90/00/14 ch.13);
- (GA) 2.2.2.32 examining, and testing as appropriate, the oxygen-deficiency monitoring equipment (IGC Code 14 ch.13);
- (GA) 2.2.2.33 confirming that two sets of portable gas detection equipment suitable for the cargoes to be carried and a suitable instrument for measuring oxygen levels have been provided (IGC Code 83/90/00/14 ch.13);
- (GA) 2.2.2.34 examining, as appropriate, the automation systems used to provide instrumented control, monitoring/alarm or safety functions (IGC Code 14 ch.13);
- (GA) 2.2.2.35 checking the provision of equipment for personnel protection (IGC Code 83/90/00/14 ch.14) and in particular that:
 - (GA) 2.2.2.35.1 suitable protective equipment, including eye protection, is provided for protection of crew members engaged in normal cargo operations, and properly stowed;

- (GA) 2.2.2.35.2 sufficient, but not less than three complete sets of safety equipment each permitting personnel to enter and work in a gas-filled space are provided and are properly stowed;
- (GA) 2.2.2.35.3 an adequate supply of compressed air is provided and that the spare air bottle, air compressor and charging manifold are provided and properly stowed;
- (GA) 2.2.2.35.4 a stretcher and the medical first-aid equipment, including oxygen resuscitation equipment, when available, for the products to be carried, are provided;
- (GA) 2.2.2.35.5 respiratory and eye protection suitable for emergency escape purposes are provided and properly stowed; and
- (GA) 2.2.2.35.6 decontamination arrangements and eyewashes are operational; and
- (GA) 2.2.2.36 examining, when applicable, the arrangements for the use of cargo as fuel and testing, as far as practicable, that the gas supply to the space containing gas consumers is cut off should the double wall concentric pipes lose the inert gas pressure or the exhaust ventilation not be functioning correctly and that master gas fuel valve may be manually closed from within the space and at least one remote location (IGC Code 83/90/00/14 ch.16).
- (GA) 2.2.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the completion of the annual survey should consist of:
- (GA) 2.2.3.1 after a satisfactory survey, endorsing the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk; and
- (GA) 2.2.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory – see part "General" section 4.8.
- (GIn) **2.3 Intermediate surveys** – see part "General", section 4.3.
- (GIn) 2.3.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the examination of current certificates and other records should consist of:
- (GIn) 2.3.1.1 the provisions of (GA) 2.2.1.
- (GIn) 2.3.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the intermediate survey of the structure, equipment, fittings, arrangements and materials should consist of:
- (GIn) 2.3.2.1 the provisions of (GA) 2.2.2;
- (GIn) 2.3.2.2 confirming, where applicable, that pipelines and independent cargo tanks are electrically bonded to the hull (IGC Code 83/90/00/14 ch.10);
- (GIn) 2.3.2.3 generally examining the electrical equipment and cables in hazardous areas and zones such as cargo machinery spaces and areas adjacent to cargo tanks to check for defective equipment, fixtures and wiring; the

- insulation resistance of the circuits should be tested and in cases where a proper record of testing is maintained consideration should be given to accepting recent readings (IGC Code 83/90/00/14 ch.10);
- (GIn) 2.3.2.4 confirming that spares are provided for cargo area mechanical ventilation fans (IGC Code 83/90/00/14 ch.12);
- (GIn) 2.3.2.5 confirming that the heating arrangements, if any, for steel structures are satisfactory; and
- (GIn) 2.3.2.6 confirming that the high-level alarms of cargo tanks are properly working, by witnessing topping-off process for cargo tanks, at the first occasion of full loading after each dry-docking (IGC Code 83/90/00/14 ch.13).
- (GIn) 2.3.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the completion of the intermediate survey should consist of:
- (GIn) 2.3.3.1 after a satisfactory survey, endorsing the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk; and
- (GIn) 2.3.3.2 if a survey shows that the condition of a ship or its equipment is unsatisfactory – see part "General" section 4.8.
- (GR) **2.4** **Renewal surveys** – see part "General", section 4.4.
- (GR) 2.4.1 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the examination of current certificates and other records should consist of:
- (GR) 2.4.1.1 the provisions of (GA) 2.2.1, except the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk.
- (GR) 2.4.2 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the renewal survey of the structure, equipment, fittings, arrangements and materials should consist of:
- (GR) 2.4.2.1 the provisions of (GIn) 2.3.2;
- (GR) 2.4.2.2 examining the insulation and means of support of the cargo tanks and confirming that the secondary barrier remains effective (IGC Code 83/90/00/14 ch.4); and
- (GR) 2.4.2.3 conducting an internal examination of selected cargo tanks (IGC Code 83/90/00/14 ch.4);
- (GR) 2.4.2.4 confirming that the high-level alarms of cargo tanks are properly working, by witnessing topping-off process for cargo tanks, at the first occasion of full loading after each dry-docking* (IGC Code 83/90/00/14 ch.13).

* Refer to the *Unified interpretation of paragraph 13.3.5 of the IGC Code* (as amended by resolution MSC.370(93)) (MSC.1/Circ.1590).

- (GR) 2.4.3 For compliance with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk the completion of the renewal survey should consist of:
- (GR) 2.4.3.1 after a satisfactory survey, issuing the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk.
- (W) **3** **GUIDELINES FOR SURVEYS FOR THE POLAR SHIP CERTIFICATE ADDITIONAL TO SOLAS CERTIFICATES**
- (WI) **3.1** **Initial surveys** – see part "General" paragraph 5.13.3.1
- (WI) 3.1.1 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the examination of plans and designs of the hull, machinery and equipment should consist of:
- (WI) 3.1.1.1 (Add. to PI, CI, EI, RI) for ships intended to operate in low air temperature, confirming that the design service temperature of the systems and equipment required by this Code are consistent with the polar service temperature specified for the ship (Polar Code part I-A/para.1.4.2);
- (WI) 3.1.1.2 (Add. to PI, EI, RI) for ships operating in low air temperature, confirming that the design maximum service time of the survival systems and equipment are consistent with the maximum expected rescue time of the vessel at polar service temperature (Polar Code part I-A/para.1.4.3);
- (WI) 3.1.1.3 (Add. to PI, CI, EI, RI) reviewing the operational assessment of the ship and its equipment (Polar Code part I-A section 1.5);
- (WI) 3.1.1.4 (Add. to PI, CI) examining the plans and designs for materials of exposed structures and scantlings of the ship, confirming that the materials and the scantlings are according to the polar service temperature and ice strengthening standards, where applicable for the category of the ship (Polar Code part I-A/paras.3.3.1 and 3.3.2);
- (WI) 3.1.1.5 (Add. to PI, CI) examining the stability information, including the damage stability information, where applicable, and loading instrument as appropriate, with icing allowance in the stability calculations (Polar Code part I-A/paras.4.3.1.1 and 4.3.2);
- (WI) 3.1.1.6 (Add. to PI, CI) examining whether structures and installations are designed with a view to minimizing the accretion of ice (Polar Code part I-A/para.4.3.1.2.1);
- (WI) 3.1.1.7 (Add. to PI, CI) examining whether the ship is equipped with efficient means for removing ice as required by the Administration (Polar Code part I-A/para.4.3.1.2.2);
- (WI) 3.1.1.8 (Add. to PI, CI) examining the means to remove or prevent ice and snow accretion around hatches and doors; for ships intended to operate in low air temperature, examining the means for prevention of freezing or excessive viscosity of liquids for hydraulically operated hatches and doors as mentioned in the PWOM (Polar Code part I-A/paras.5.3.1 and 5.3.2.1);

- (WI) 3.1.1.9 for ships intended to operate in low air temperature, confirming that the (Add. to PI, watertight and weathertight doors, hatches and closing devices, not CI) within habitable environment and requiring access while at sea, are designed to be operable by personnel wearing heavy winter clothing including thick mittens (Polar Code part I-A/para.5.3.2.2);
- (WI) 3.1.1.10 examining the means for protecting machinery installations and (Add. to PI, associated equipment against the effect of ice accretion and/or snow CI) accumulation, ice ingestion from seawater, freezing and increased viscosity of liquids, seawater intake temperature and snow ingestion, and that seawater supplies for machinery systems are designed to prevent ingestion of ice (Polar Code part I-A/paras.6.3.1.1, 6.3.1.2 and 6.3.1.3);
- (WI) 3.1.1.11 for ships intended to operate in low air temperature, confirming that the (Add. to PI, exposed machinery and electrical installation and appliances are fit for CI) the polar service temperature (Polar Code part I-A/para.6.3.2.1);
- (WI) 3.1.1.12 for ships intended to operate in low air temperature, confirming that (Add. to PI, means are provided to ensure that combustion air for internal combustion CI) engines driving essential machinery is maintained at a temperature in compliance with the criteria provided by the engine manufacturer (Polar Code part I-A/para.6.3.2.2);
- (WI) 3.1.1.13 for ships intended to operate in low air temperature, examining the plans (Add. to PI, for materials of the exposed machinery and foundations, confirming that CI) the materials are approved according to applicable standards, taking into account the polar service temperature and the required ice strengthening (Polar Code part I-A/para.6.3.2.3);
- (WI) 3.1.1.14 examining the plans and design of the scantlings of propeller blades, (Add. to PI, propulsion line, steering equipment and other appendages, confirming CI) that they are approved according to the polar service temperature if applicable and ice strengthening standards, where applicable for the category of the ship (Polar Code part I-A/para.6.3.3);
- (WI) 3.1.1.15 examining all components of fire safety systems and appliances if (Add. to PI, installed in exposed positions to ensure that they are protected from ice EI) accretion and snow accumulation according to the operational assessment (Polar Code part I-A/para.7.2.1.1);
- (WI) 3.1.1.16 examining the design of fire safety systems and appliances for operation (Add. to PI, by persons wearing bulky and cumbersome cold weather gear including EI) gloves, where appropriate (Polar Code part I-A/para.7.2.1.3);
- (WI) 3.1.1.17 examining the means to remove or prevent ice and snow accretion from (Add. to PI, accesses of fire safety systems and appliances, escape routes, muster EI) stations, embarkation areas, survival craft, its launching appliances and access to survival craft according to the PWOM (Polar Code part I-A/paras.7.2.1.4 and 8.3.1.1);

- (WI) 3.1.1.18 confirming that the extinguishing media is suitable for the intended operation (Polar Code part I-A/para.7.2.1.5);
(Add. to PI, EI)
- (WI) 3.1.1.19 examining that all components of fire safety systems and appliances are designed to ensure availability and effectiveness at the polar service temperature (Polar Code part I-A/para.7.2.2.1);
(Add. to PI, EI)
- (WI) 3.1.1.20 examining that the isolating and pressure/vacuum valves in exposed locations are protected from ice accretion and remain accessible at all times (Polar Code part I-A/para.7.3.1.1);
(Add. to PI, EI)
- (WI) 3.1.1.21 examining that all two-way portable radio communication equipment is capable of operating at the polar service temperature (Polar Code part I-A/para.7.3.1.2);
(Add. to PI, EI)
- (WI) 3.1.1.22 examining that the fire pumps including emergency fire pumps, water mist and water spray pumps are located in compartments maintained above freezing (Polar Code part I-A/paras.7.3.2.1 and 7.3.2.2);
(Add. to PI, EI)
- (WI) 3.1.1.23 examining whether the arrangement of the fire main is such that exposed sections can be isolated and means of draining of exposed sections are provided, and, where fixed water-based fire-extinguishing systems are located in a space separate from the main fire pumps and use an own sea suction, confirming that this sea suction is capable of being cleared of ice accumulation (Polar Code part I-A/paras.7.3.2.2 and 7.3.2.4);
(Add. to PI, EI)
- (WI) 3.1.1.24 examining that the fire-fighter's outfits are stored in warm locations on the ship (Polar Code part I-A/para.7.3.2.3);
(Add. to PI, EI)
- (WI) 3.1.1.25 examining that portable and semi-portable extinguishers are protected from freezing temperatures, and confirming that locations subject to freezing are provided with extinguishers capable of operation at the polar service temperature (Polar Code part I-A/para.7.3.3.1);
(Add. to PI, EI)
- (WI) 3.1.1.26 examining the plans for the materials of exposed fire safety systems, confirming that they are approved according to the polar service temperature and ice strengthening standards (Polar Code part I-A/para.7.3.3.2);
(Add. to PI, EI)
- (WI) 3.1.1.27 for ships constructed on or after 1 January 2017, examining that the exposed escape routes are arranged so as not to hinder passage by persons wearing suitable polar clothing (Polar Code part I-A/para.8.3.1.2);
(Add. to PI, EI)
- (WI) 3.1.1.28 for ships intended to operate in low air temperatures, examining the adequacy of embarkation arrangements, with full regard to any effect of persons wearing additional polar clothing (Polar Code part I-A/para.8.3.1.3);
(Add. to PI, EI)

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- (WI) 3.1.1.29 examining the means to ensure safe evacuation of persons, including (Add. to PI, safe deployment of survival equipment, when operating in ice-covered EI) waters, or directly onto the ice, as applicable (Polar Code part I-A/para.8.3.2.1);
- (WI) 3.1.1.30 examining that life-saving appliances and arrangements as required by (Add. to PI, the Polar Code, if using devices requiring a source of power, are able to EI) operate independently of the ship's main source of power (Polar Code part I-A/para.8.3.2.2);
- (WI) 3.1.1.31 for passenger ships, examining that a proper sized immersion suit of the (Add. to PI) insulated type or a thermal protective aid is provided for each person on board according to the operational assessment (Polar Code part I-A/paras.8.3.3.1.1 and 8.3.3.1.2);
- (WI) 3.1.1.32 for cargo ships, examining that all the immersion suits provided on board (Add. to EI) are of the insulated type (Polar Code part I-A/para.8.3.3.1.2);
- (WI) 3.1.1.33 examining that for ships intended to operate in extended periods of (Add. to PI, darkness, searchlights suitable for continuous use to facilitate EI) identification of ice are provided for each lifeboat (Polar Code part I-A/para.8.3.3.2);
- (WI) 3.1.1.34 confirming that the lifeboats are of the partially or totally enclosed type, (Add. to PI, as appropriate (Polar Code part I-A/para.8.3.3.3.1); EI)
- (WI) 3.1.1.35 examining that, when personal or group survival equipment is required (Add. to PI, according to the operational assessment, personal and group survival EI) equipment sufficient for 110% of the persons on board is stowed in easily accessible locations; that containers for group survival equipment are designed to be easily movable over the ice and floatable; and that means of ensuring that personal and group survival equipment is accessible following abandonment is provided (Polar Code part I-A/paras.8.3.3.3.2, 8.3.3.3.3.1 to 8.3.3.3.3.4);
- (WI) 3.1.1.36 examining that the survival craft and launching appliances have sufficient (Add. to PI, capacity to accommodate the additional personal and group survival EI) equipment if required and carried in addition to persons, and that adequate emergency rations are provided for the maximum expected time of rescue (Polar Code part I-A/paras.8.3.3.3.3.5 and 8.3.3.3.4);
- (WI) 3.1.1.37 confirming that the instructions to passengers on the use of the personal (Add. to PI, survival equipment and the action to take in an emergency are provided EI) on board (Polar Code part I-A/para.8.3.3.3.3.6);
- (WI) 3.1.1.38 examining the means of receiving and displaying the information on ice (Add. to PI, conditions in the area of operation (Polar Code part I-A/para.9.3.1); EI)
- (WI) 3.1.1.39 for ships constructed on or after 1 January 2017 and ice strengthened, (Add. to PI, examining that either two independent echo-sounding devices or one EI) echo-sounding device with two separate independent transducers are provided (Polar Code part I-A/para.9.3.2.1.1);

- (WI) 3.1.1.40 confirming that clear view astern is achieved, and for ships built (Add. to PI, before 1 July 1998 and with a length of less than 55 m, confirming that, EI) clear-view navigation bridge front windows are provided (SOLAS 74/00reg.V/22.1.9.4, Polar Code part I-A/ch.9.3.2.1.2);
- (WI) 3.1.1.41 where ice accretion is likely to occur, examining the means to prevent (Add. to PI, the accumulation of ice on antennas required for navigation and EI) communication (Polar Code part I-A/para.9.3.2.1.3);
- (WI) 3.1.1.42 for ice strengthened ships, examining that sensors for navigational (Add. to PI, equipment, required either by SOLAS or the Code, projecting below the EI) hull are protected against ice (Polar Code part I-A/para.9.3.2.1.4.1);
- (WI) 3.1.1.43 examining the arrangements of the bridge wings for protection of (Add. to PI, navigational equipment and operating personnel, in category A and B EI) ships constructed on or after 1 January 2017 (Polar Code part I-A/para.9.3.2.1.4.2);
- (WI) 3.1.1.44 examining the two independent non-magnetic means for heading (Add. to PI, information, and at least one GNSS compass or equivalent for ships EI) intended to proceed to latitudes over 80 degrees, connected to the ship's main and emergency source of power (Polar Code part I-A/paras.9.3.2.2.1 and 9.3.2.2.2);
- (WI) 3.1.1.45 examining that two remotely rotatable, narrow-beam searchlights (Add. to PI, controllable from the bridge to provide lighting over an arc EI) of 360 degrees, or other means to visually detect ice, are provided on board if the ship is not operating solely in 24 h daylight, and examining that a manually initiated flashing red light visible from astern to indicate when the ship is stopped is available, for ships involved in operations with an icebreaker escort (Polar Code part I-A/paras.9.3.3.1 and 9.3.3.2);
- (WI) 3.1.1.46 examining that the communication equipment on board has the (Add. to PI, capabilities for ship-to-ship and ship-to-shore communication, taking into EI) account the limitations of communications systems in high latitudes and the anticipated low temperature (Polar Code part I-A/para.10.3.1.1);
- (WI) 3.1.1.47 for ships intended to provide icebreaking escort, examining the sound (Add. to PI, signalling system capable of being mounted to face astern (Polar Code EI) part I-A/para.10.3.1.2);
- (WI) 3.1.1.48 examining the means for two-way on-scene and SAR coordination (Add. to PI, communications for search and rescue purposes including aeronautical EI) frequencies operations and that communication equipment provides for two-way voice and data communication with a Telemedical Assistance Service (TMAS) (Polar Code part I-A/paras.10.3.1.3 and 10.3.1.4);
- (WI) 3.1.1.49 for ships intended to operate in low air temperature, examining that each (Add. to PI, rescue boat and lifeboat is capable of being provided with devices for EI) transmitting signals for distress alerting, locating and on-scene communications (Polar Code part I-A/para.10.3.2.1);

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- (WI) 3.1.1.50 for ships intended to operate in low air temperature, examining the capability of all other survival craft to transmit signals for location and for communication (Polar Code part I-A/para.10.3.2.2);
(Add. to PI, RI)
- (WI) 3.1.1.51 confirming that procedures are provided on board for ensuring the availability of the mandatory communication equipment for use in survival craft, including availability of battery power for the maximum expected time of rescue (Polar Code part I-A/para.10.3.2.3); and
(Add. to PI, RI)
- (WI) 3.1.1.52 examining, where applicable, the approved documentation for the alternative design and arrangements (SOLAS 74/00/14 reg.XIV/4).
(Add. to PI, CI, EI, RI)
- (WI) 3.1.2 For compliance with part I-A of the International Code for Ships Operating in Polar Waters, the survey during construction and after installation of the hull, machinery and equipment should consist of:
- (WI) 3.1.2.1 for ships intended to operate in low air temperature, checking the certificates or equivalent documents of the systems and equipment required by this Code for consistency with the polar service temperature specified for the ship (Polar Code part I-A/para.1.4.2);
(Add. to PI, CI, EI, RI)
- (WI) 3.1.2.2 for ships operating in low air temperature, checking the certificates or equivalent documents of the survival systems and equipment for consistency with the maximum expected rescue time at polar service temperature (Polar Code part I-A/para.1.4.3);
(Add. to PI, EI RI)
- (WI) 3.1.2.3 examining the materials of exposed structures and the scantlings of the ship in accordance with the polar service temperature and ice strengthening standards, where applicable for the category of the ship (Polar Code part I-A/para.3.3.1 and 3.3.2);
(Add. to PI, CI)
- (WI) 3.1.2.4 examining whether structures and installations are designed with a view to minimizing the accretion of ice (Polar Code part I-A/para.4.3.1.2.1);
(Add. to PI, CI)
- (WI) 3.1.2.5 examining the means for removing ice as required by the Administration and mentioned in the PWOM (Polar Code part I-A/para.4.3.1.2.2);
(Add. to PI, CI)
- (WI) 3.1.2.6 examining the means to remove or prevent ice and snow accretion around hatches and doors, and testing the function of the electric heat tracing system protecting hatches and doors from freezing as applicable; for ships intended to operate in low air temperature, examining the means for prevention of freezing or excessive viscosity of liquids for hydraulically operated hatches and doors as mentioned in the PWOM (Polar Code part I-A/paras.5.3.1 and 5.3.2.1);
(Add. to PI, CI)
- (WI) 3.1.2.7 for ships intended to operate in low air temperature, examining that the watertight and weathertight doors, hatches and closing devices, which are not within a habitable environment and require access while at sea are operable by personnel wearing heavy winter clothing including thick mittens (Polar Code part I-A/para.5.3.2.2);
(Add. to PI, CI)

- (WI) 3.1.2.8 examining the means for protecting machinery installations and associated equipment against the effect of ice accretion and/or snow accumulation, ice ingestion from seawater, freezing and increased viscosity of liquids, seawater intake temperature and snow ingestion, and that seawater supplies for machinery systems are designed to prevent ingestion of ice (Polar Code part I-A/paras.6.3.1.1, 6.3.1.2 and 6.3.1.3);
- (WI) 3.1.2.9 for ships intended to operate in low air temperature, confirming that the exposed machinery and electrical installation and appliances are fit for the polar service temperature (Polar Code part I-A/para.6.3.2.1);
- (WI) 3.1.2.10 for ships intended to operate in low air temperature, examining and testing the means to ensure that combustion air for internal combustion engines driving essential machinery is maintained at a temperature in compliance with the criteria provided by the engine manufacturer (Polar Code part I-A/para.6.3.2.2);
- (WI) 3.1.2.11 for ships intended to operate in low air temperature, examining the certificates or equivalent documents of the materials of the exposed machinery and foundations in accordance with applicable standards, taking into account the polar service temperature and the required ice strengthening (Polar Code part I-A/para.6.3.2.3);
- (WI) 3.1.2.12 examining the scantlings of propeller blades, propulsion line, steering equipment and other appendages in accordance with the polar service temperature if applicable and ice strengthening standards, where applicable for the category of the ship (Polar Code part I-A/para.6.3.3);
- (WI) 3.1.2.13 examining that all components of fire safety systems and appliances if installed in exposed positions are protected from ice accretion and snow accumulation according to the operational assessment (Polar Code part I-A/para.7.2.1.1);
- (WI) 3.1.2.14 examining the fire safety systems and appliances for operation by persons wearing bulky and cumbersome cold weather gear including gloves, where appropriate (Polar Code part I-A/para.7.2.1.3);
- (WI) 3.1.2.15 examining the means to remove or prevent ice and snow accretion from accesses of fire safety systems and appliances, escape routes, muster stations, embarkation areas, survival craft, its launching appliances and access to survival craft according to the PWOM (Polar Code part I-A/paras.7.2.1.4 and 8.3.1.1);
- (WI) 3.1.2.16 confirming that the extinguishing media is suitable for the intended operation (Polar Code part I-A/para.7.2.1.5);
- (WI) 3.1.2.17 examining that all components of fire safety systems and appliances are designed to ensure availability and effectiveness at the polar service temperature (Polar Code part I-A/para.7.2.2.1);
- (WI) 3.1.2.18 examining that the isolating and pressure/vacuum valves in exposed locations are protected from ice accretion and remain accessible at all times (Polar Code part I-A/para.7.3.1.1);

- (WI) 3.1.2.19 examining that all two-way portable radio communication equipment is (Add. to PI, capable of operating at the polar service temperature (Polar Code EI) part I-A/para.7.3.1.2);
- (WI) 3.1.2.20 examining that the fire pumps including emergency fire pumps, water (Add. to PI, mist and water spray pumps are located in compartments maintained EI) above freezing (Polar Code part I-A/paras.7.3.2.1 and 7.3.2.2);
- (WI) 3.1.2.21 examining whether the arrangement of the fire main is such that exposed (Add. to PI, sections can be isolated and means of draining of exposed sections are EI) provided, and, where fixed water-based fire-extinguishing systems are located in a space separate from the main fire pumps and use an own sea suction, confirming that this sea suction is capable of being cleared of ice accumulation (Polar Code part I-A/paras.7.3.2.2 and 7.3.2.4);
- (WI) 3.1.2.22 examining that the fire-fighter's outfits are stored in warm locations on (Add. to PI, the ship (Polar Code part I-A/para.7.3.2.3); EI)
- (WI) 3.1.2.23 examining that portable and semi-portable extinguishers are protected (Add. to PI, from freezing temperatures, and confirming that locations subject to EI) freezing are provided with extinguishers capable of operation at the polar service temperature (Polar Code part I-A/para.7.3.3.1);
- (WI) 3.1.2.24 examining the exposed fire safety systems in accordance with the polar (Add. to PI, service temperature and ice strengthening standards (Polar Code EI) part I-A/para.7.3.3.2);
- (WI) 3.1.2.25 for ships constructed on or after 1 January 2017, confirming the exposed (Add. to PI, escape routes arranged as a passage by persons wearing suitable polar EI) clothing (Polar Code part I-A/para.8.3.1.2);
- (WI) 3.1.2.26 for ships intended to operate in low air temperatures, confirming the (Add. to PI, embarkation arrangements, with full regard for persons wearing EI) additional polar clothing (Polar Code part I-A/para.8.3.1.3);
- (WI) 3.1.2.27 examining the means to ensure safe evacuation of persons, including (Add. to PI, safe deployment of survival equipment, when operating in ice-covered EI) waters, or directly onto the ice, as applicable (Polar Code part I-A/para.8.3.2.1);
- (WI) 3.1.2.28 examining life-saving appliances and arrangements as required by the Polar (Add. to PI, Code, if using devices requiring a source of power, and testing that they are EI) able to operate independently of the ship's main source of power (Polar Code part I-A/para.8.3.2.2);
- (WI) 3.1.2.29 for passenger ships, examining that a proper sized immersion suit of the (Add. to PI) insulated type or a thermal protective aid is provided for each person on board according to the operational assessment (Polar Code part I-A/paras.8.3.3.1.1 and 8.3.3.1.2);
- (WI) 3.1.2.30 for cargo ships, examining that all the immersion suits equipped on board (Add. to EI) are of the insulated type (Polar Code part I-A/para.8.3.3.1.2);

- (WI) 3.1.2.31 for ships intended to operate in extended periods of darkness, examining (Add. to PI, and testing the searchlights provided for each lifeboat suitable for EI) continuous use to facilitate identification of ice (Polar Code part I-A/para.8.3.3.2);
- (WI) 3.1.2.32 confirming that the lifeboats are of the partially or totally enclosed type, as (Add. to PI, appropriate (Polar Code part I-A/para.8.3.3.3.1); EI)
- (WI) 3.1.2.33 confirming that, when personal or group survival equipment is required (Add. to PI, according to the operational assessment, personal and group survival EI) equipment sufficient for 110% of the persons on board is stowed in easily accessible locations; that containers for group survival equipment are designed to be easily movable over the ice and floatable; and that means of ensuring that personal and group survival equipment is accessible following abandonment is provided (Polar Code part I-A/paras.8.3.3.3.2, 8.3.3.3.3.1 to 8.3.3.3.3.4);
- (WI) 3.1.2.34 confirming that the survival craft and launching appliances have sufficient (Add. to PI, capacity to accommodate the additional personal and group survival EI) equipment if required and carried in addition to persons, and that adequate emergency rations are provided for the maximum expected time of rescue (Polar Code part I-A/paras.8.3.3.3.3.5 and 8.3.3.3.4);
- (WI) 3.1.2.35 confirming that the instructions to passengers on the use of the personal (Add. to PI, survival equipment and the action to take in an emergency are provided EI) on board (Polar Code part I-A/para.8.3.3.3.3.6);
- (WI) 3.1.2.36 examining the means of receiving and displaying the information on ice (Add. to PI, conditions in the area of operation (Polar Code part I-A/para.9.3.1); EI)
- (WI) 3.1.2.37 for ships constructed on or after 1 January 2017 and ice strengthened, (Add. to PI, confirming that either two independent echo-sounding devices or one EI) echo-sounding device with two separate independent transducers are provided (Polar Code part I-A/para.9.3.2.1.1);
- (WI) 3.1.2.38 confirming that clear view astern is achieved, and for ships built before (Add. to PI, 1 July 1998 and with a length of less than 55 m, confirming that clear-view EI) navigation bridge front windows are provided (SOLAS 74/00 regulation V/22.1.9.4, Polar Code part I-A/para.9.3.2.1.2);
- (WI) 3.1.2.39 where ice accretion is likely to occur, examining the means to prevent (Add. to PI, the accumulation of ice on antennas required for navigation and EI) communication (Polar Code part I-A/para.9.3.2.1.3);
- (WI) 3.1.2.40 for ice strengthened ships, examining that sensors for navigational (Add. to PI, equipment, required either by SOLAS or the Code, projecting below the EI) hull are protected against ice (Polar Code part I-A/para.9.3.2.1.4.1);
- (WI) 3.1.2.41 examining the arrangements of the bridge wings for protection of (Add. to PI, navigational equipment and operating personnel, in category A and B EI) ships constructed on or after 1 January 2017 (Polar Code part I-A/para.9.3.2.1.4.2);

- (WI) 3.1.2.42 examining the two independent non-magnetic means for heading (Add. to PI, EI) information, and at least one GNSS compass or equivalent for ships intended to proceed to latitudes over 80 degrees, connected to the ship's main and emergency source of power (Polar Code part I-A/paras.9.3.2.2.1 and 9.3.2.2.2);
- (WI) 3.1.2.43 examining and testing the two remotely rotatable, narrow-beam (Add. to PI, EI) searchlights controllable from the bridge to provide lighting over an arc of 360 degrees, or other means to visually detect ice, for ships not operating solely in 24 h daylight, and examining and testing the manually initiated flashing red light visible from astern to indicate when the ship is stopped, for ships involved in operations with an icebreaker escort (Polar Code part I-A/paras.9.3.3.1 and 9.3.3.2);
- (WI) 3.1.2.44 examining and testing the communication equipment on board for (Add. to PI, RI) ship-to-ship and ship-to-shore communication, taking into account the limitations of communications systems in high latitudes and the anticipated low temperature (Polar Code part I-A/para.10.3.1.1);
- (WI) 3.1.2.45 for ships intended to provide icebreaking escort, examining the sound (Add. to PI, RI) signalling system capable of being mounted to face astern (Polar Code part I-A/para.10.3.1.2);
- (WI) 3.1.2.46 examining and testing the means for two-way on-scene and SAR (Add. to PI, RI) coordination communications for search and rescue purposes including aeronautical frequencies operations and that communication equipment provides for two-way voice and data communication with a Telemedical Assistance Service (TMAS) (Polar Code part I-A/para.10.3.1.3 and 10.3.1.4);
- (WI) 3.1.2.47 for ships intended to operate in low air temperature, examining that each (Add. to PI, RI) rescue boat and lifeboat is capable of being provided with devices for transmitting signals for distress alerting, locating and on-scene communications (Polar Code part I-A/para.10.3.2.1);
- (WI) 3.1.2.48 for ships intended to operate in low air temperature, examining the (Add. to PI, RI) capability of all other survival craft to transmit signals for location and for communication (Polar Code part I-A/para.10.3.2.2); and
- (WI) 3.1.2.49 examining, where applicable, the alternative design and arrangements (Add. to PI, CI, EI, RI) for ship structure, machinery installations, fire safety/protection or life-saving appliances and arrangements, in accordance with the test and inspection requirements, if any, specified in the approved documentation and PWOM (SOLAS 74/00/14 reg.XIV/4).
- (WI) 3.1.3 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the check that all the required documentation has been placed on board the ship should consist of:
- (WI) 3.1.3.1 checking that the PWOM with the hazards identified in the operational (Add. to PI, CI, EI, RI) assessment being addressed properly is placed on board (Polar Code part I-A/paras.2.3, 4.3.1.3 and 4.3.1.4);

- (WI) 3.1.3.2 confirming that the approved stability information, damage stability (Add. to PI, CI) information and loading instrument as appropriate, with icing allowance in the stability calculations, are on board (Polar Code part I-A/paras.4.3.1.1 and 4.3.2);
- (WI) 3.1.3.3 confirming as applicable that the crew training records or other equivalent documents for the use of the personal survival equipment and group survival equipment are placed on board (Polar Code part I-A/para.8.3.3.3.7);
- (WI) 3.1.3.4 confirming that procedures are provided on board for ensuring the (Add. to PI, RI) availability of the mandatory communication equipment for use in survival craft, including availability of battery power for the maximum expected time of rescue (Polar Code part I-A/para.10.3.2.3); and
- (WI) 3.1.3.5 confirming that, where applicable, the approved documentation for the (Add. to PI, CI, EI, RI) alternative design and arrangement is on board, with the relevant contents being entered in the PWOM (SOLAS 74/00/14 reg.XIV/4).
- (WI) 3.1.4 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the completion of the initial survey should consist of:
- (WI) 3.1.4.1 after a satisfactory survey, issuing the Polar Ship Certificate and its associated Record of Equipment.
- (WA) **3.2 Annual surveys** – see part "General" paragraph 5.13.3.2
- (WA) 3.2.1 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the examination of current certificates and other records should consist of:
- (WA) 3.2.1.1 (Add. to CA, EA, RP) confirming the provision of the operational assessment and reviewing any changes thereto (Polar Code part I-A/section 1.5);
- (WA) 3.2.1.2 (Add. to CA, EA, RP) confirming that the PWOM is on board, and checking whether any changes have been made to it since the last survey (Polar Code part I-A/section 2.3 and paras.4.3.1.3 and 4.3.1.4);
- (WA) 3.2.1.3 (Add. to CA) confirming the availability of approved stability information, damage stability information and loading instrument as appropriate, with icing allowance in the stability calculations (Polar Code part I-A/paras.4.3.1.1 and 4.3.2);
- (WA) 3.2.1.4 (Add. to EA) confirming as applicable that the crew training records or other equivalent documents for the use of the personal survival equipment and group survival equipment are placed on board (Polar Code part I-A/para.8.3.3.3.7);
- (WA) 3.2.1.5 (Add. to RP) confirming that procedures are provided on board for ensuring the availability of the mandatory communication equipment for use in survival craft, including availability of battery power for the maximum expected time of rescue (Polar Code part I-A/para.10.3.2.3);

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- (WA) 3.2.1.6 (Add. to CA, EA, RP) confirming that the voyage plan has been provided on board for the voyages in polar waters since the last survey; if no trading in polar waters has taken place, random checking of the historical plans may be considered (Polar Code part I-A/section 11.3);
- (WA) 3.2.1.7 (Add. to CA, EA, RP) where applicable, checking the qualifications of the masters, chief mates, officers and/or other persons in charge of a navigational watch on board ships operating in polar waters in accordance with chapter V of the STCW Convention and the STCW Code (Polar Code part I-A/paras.12.3.1 and 12.3.2);
- (WA) 3.2.1.8 (Add. to CA, EA, RP) checking the qualification certificates (if required by the Administration) and/or familiarization records of all the crew members for their assigned duties referenced in the PWOM (Polar Code part I-A/para.12.3.4); and
- (WA) 3.2.1.9 (Add. to CA, EA, RP) confirming that, where applicable, the approved documentation for the alternative design and arrangements is on board, with the relevant contents being entered in the PWOM (SOLAS 74/00/14 reg.XIV/4).
- (WA) 3.2.2 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the annual survey of the hull, machinery and equipment should consist of:
- (WA) 3.2.2.1 (Add. to CA) examining the means for removing ice as required by the Administration and mentioned in the PWOM (Polar Code part I-A/para.4.3.1.2.2);
- (WA) 3.2.2.2 (Add. to CA) examining the means to remove or prevent ice and snow accretion around hatches and doors, and testing the function of the electric heat tracing system protecting hatches and doors from freezing as applicable; for ships intended to operate in low air temperature, examining the means for prevention of freezing or excessive viscosity of liquids for hydraulically operated hatches and doors as mentioned in the PWOM (Polar Code part I-A/para.5.3.1 and 5.3.2.1);
- (WA) 3.2.2.3 (Add. to CA) examining the means for protecting machinery installations and associated equipment against the effect of ice accretion and/or snow accumulation, ice ingestion from seawater, freezing and increased viscosity of liquids, seawater intake temperature and snow ingestion (Polar Code part I-A/para.6.3.1.1 and 6.3.1.2);
- (WA) 3.2.2.4 (Add. to CA) for ships intended to operate in low air temperature, examining and testing the means to ensure that combustion air for internal combustion engines driving essential machinery is maintained at a temperature in compliance with the criteria provided by the engine manufacturer (Polar Code part I-A/para.6.3.2.2);
- (WA) 3.2.2.5 (Add. to EA) examining that all components of fire safety systems and appliances if installed in exposed positions are protected from ice accretion and snow accumulation according to the operational assessment (Polar Code part I-A/para.7.2.1.1);

- (WA) 3.2.2.6 examining the fire safety systems and appliances for operation by persons wearing bulky and cumbersome cold weather gear including gloves, where appropriate (Polar Code part I-A/para.7.2.1.3);
- (WA) 3.2.2.7 examining the means to remove or prevent ice and snow accretion from accesses of fire safety systems and appliances, escape routes, muster stations, embarkation areas, survival craft, its launching appliances and access to survival craft according to the PWOM (Polar Code part I-A/paras.7.2.1.4 and 8.3.1.1);
- (WA) 3.2.2.8 confirming that the extinguishing media are suitable for the intended operation (Polar Code part I-A/para.7.2.1.5);
- (WA) 3.2.2.9 examining that the isolating and pressure/vacuum valves in exposed locations are protected from ice accretion and remain accessible at all time (Polar Code part I-A/para.7.3.1.1);
- (WA) 3.2.2.10 examining that all two-way portable radio communication equipment is capable of operating at the polar service temperature (Polar Code part I-A/para.7.3.1.2);
- (WA) 3.2.2.11 examining that the fire pumps including emergency fire pumps, water mist and water spray pumps are located in compartments maintained above freezing (Polar Code part I-A/paras.7.3.2.1 and 7.3.2.2);
- (WA) 3.2.2.12 examining whether the arrangement of the fire main is such that exposed sections can be isolated and means of draining of exposed sections are provided, and, where fixed water-based fire-extinguishing systems are located in a space separate from the main fire pumps and use an own sea suction, confirming that this sea suction is capable of being cleared of ice accumulation (Polar Code part I-A/paras.7.3.2.2 and 7.3.2.4);
- (WA) 3.2.2.13 examining that the fire-fighter's outfits are stored in warm locations on the ship (Polar Code part I-A/para.7.3.2.3);
- (WA) 3.2.2.14 examining that portable and semi-portable extinguishers are protected from freezing temperatures, and confirming that locations subject to freezing are provided with extinguishers capable of operation at the polar service temperature (Polar Code part I-A/para.7.3.3.1);
- (WA) 3.2.2.15 examining the exposed fire safety systems in accordance with the polar service temperature and ice strengthening standards (Polar Code part I-A/para.7.3.3.2);
- (WA) 3.2.2.16 examining the means to ensure safe evacuation of persons, including safe deployment of survival equipment, when operating in ice-covered waters, or directly onto the ice, as applicable (Polar Code part I-A/para.8.3.2.1);
- (WA) 3.2.2.17 confirming that life-saving appliances and arrangements as required by the Polar Code, if using devices requiring a source of power, are able to operate independently of the ship's main source of power (Polar Code part I-A/para.8.3.2.2);

- (WA) 3.2.2.18 for cargo ships, examining that all the immersion suits equipped on board (Add. to EA) are of the insulated type (Polar Code part I-A/para.8.3.3.1.2);
- (WA) 3.2.2.19 for ships intended to operate in extended periods of darkness, examining (Add. to EA) and testing the searchlights suitable for continuous use to facilitate identification of ice provided for each lifeboat (Polar Code part I-A/para.8.3.3.2);
- (WA) 3.2.2.20 confirming that the lifeboats are of the partially or totally enclosed type, (Add. to EA) as appropriate (Polar Code part I-A/para.8.3.3.3.1);
- (WA) 3.2.2.21 confirming that, when personal or group survival equipment is required (Add. to EA) according to the operational assessment, personal and group survival equipment sufficient for 110% of the persons on board is stowed in easily accessible locations; that containers for group survival equipment are designed to be easily movable over the ice and floatable; and that means of ensuring that personal and group survival equipment is accessible following abandonment is provided (Polar Code part I-A/paras.8.3.3.3.2, 8.3.3.3.3.1 to 8.3.3.3.3.4);
- (WA) 3.2.2.22 confirming that the survival craft and launching appliances have sufficient (Add. to EA) capacity to accommodate the additional personal and group survival equipment if required and carried in addition to persons and that adequate emergency rations are provided for the maximum expected time of rescue (Polar Code part I-A/paras.8.3.3.3.3.5 and 8.3.3.3.4);
- (WA) 3.2.2.23 confirming that the instructions to passengers are provided on board (Add. to EA) (Polar Code part I-A/para.8.3.3.3.3.6);
- (WA) 3.2.2.24 examining the means of receiving and displaying information on ice (Add. to EA) conditions in the area of operation, with a demonstration by the crew on using the equipment and receiving the relevant information (Polar Code part I-A/para.9.3.1);
- (WA) 3.2.2.25 for ships constructed on or after 1 January 2017 and ice strengthened, (Add. to EA) confirming that either two independent echo-sounding devices or one echo-sounding device with two separate independent transducers are provided (Polar Code part I-A/para.9.3.2.1.1);
- (WA) 3.2.2.26 confirming that clear view astern is achieved, and for ships built before 1 (Add. to EA) July 1998 and with a length of less than 55 m, confirming that clear-view navigation bridge front windows are provided (SOLAS 74/00 regulation V/22.1.9.4, Polar Code part I-A/para.9.3.2.1.2);
- (WA) 3.2.2.27 where ice accretion is likely to occur, examining the means to prevent (Add. to EA) the accumulation of ice on antennas required for navigation and communication (Polar Code part I-A/para.9.3.2.1.3);
- (WA) 3.2.2.28 examining the arrangements of the bridge wings for protection of (Add. to EA) navigational equipment and operating personnel, in category A and B ships constructed on or after 1 January 2017 (Polar Code part I-A/para.9.3.2.1.4.2);

- (WA) 3.2.2.29 (Add. to EA) examining the two independent non-magnetic means for heading information, and at least one GNSS compass or equivalent for ships intended to proceed to latitudes over 80 degrees, connected to the ship's main and emergency source of power (Polar Code part I-A/paras.9.3.2.2.1 and 9.3.2.2.2);
- (WA) 3.2.2.30 (Add. to EA) examining and testing the two remotely rotatable, narrow-beam searchlights controllable from the bridge to provide lighting over an arc of 360 degrees, or other means to visually detect ice, for ships not operating solely in 24 h daylight, and examining and testing the manually initiated flashing red light visible from astern to indicate when the ship is stopped, for ships involved in operations with an icebreaker escort (Polar Code part I-A/paras.9.3.3.1 and 9.3.3.2);
- (WA) 3.2.2.31 (Add. to RP) examining and testing the communication equipment on board for ship-to-ship and ship-to-shore communication, taking into account the limitations of communications systems in high latitudes and the anticipated low temperature (Polar Code part I-A/para.10.3.1.1);
- (WA) 3.2.2.32 (Add. to RP) for ships intended to provide icebreaking escort, examining and testing the sound signalling system capable of being mounted to face astern (Polar Code part I-A/para.10.3.1.2);
- (WA) 3.2.2.33 (Add. to RP) examining and testing the means for two-way on-scene and SAR coordination communications for search and rescue purposes including aeronautical frequencies operations, and that communication equipment provides for two-way voice and data communication with a Telemedical Assistance Service (TMAS) (Polar Code part I-A/paras.10.3.1.3 and 10.3.1.4);
- (WA) 3.2.2.34 (Add. to RP) for ships intended to operate in low air temperature, examining that each rescue boat and lifeboat is capable of being provided with devices for transmitting signals for distress alerting, locating and on-scene communications (Polar Code part I-A/para.10.3.2.1);
- (WA) 3.2.2.35 (Add. to RP) for ships intended to operate in low air temperature, examining the capability of all other survival craft to transmit signals for location and for communication (Polar Code part I-A/para.10.3.2.2); and
- (WA) 3.2.2.36 (Add. to CA, EA, RP) examining, where applicable, the alternative design and arrangements for ship structure, machinery installations, fire safety/protection or life-saving appliances and arrangements, in accordance with the test, inspection and maintenance requirements, if any, specified in the approved documentation and PWOM (SOLAS 74/00/14 reg.XIV/4).
- (WA) 3.2.3 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the completion of the annual survey should consist of:
- (WA) 3.2.3.1 (Add. to CA, EA, RP) after a satisfactory survey, endorsing the Polar Ship Certificate; and

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- (WA) 3.2.3.2 if a survey shows that the condition of a ship or its equipment is (Add. to CA, EA, RP) unsatisfactory – see part "General" section 4.8.
- (WIn) **3.3 Intermediate surveys** – see part "General", paragraph 5.13.3.3
- (WIn) 3.3.1 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the examination of current certificates and other records should consist of:
- (WIn) 3.3.1.1 the provisions of (WA) 3.2.1 except (WA) 3.2.1.4 and (WA) 3.2.1.5. (Add. to CIn)
- (WIn) 3.3.2 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the intermediate survey of the hull, machinery and equipment should consist of:
- (WIn) 3.3.2.1 the provisions of (WA) 3.2.2 except (WA) 3.2.2.5 to (WA) 3.2.2.36. (Add. to CIn)
- (WIn) 3.3.3 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the completion of the intermediate survey should consist of:
- (WIn) 3.3.3.1 after a satisfactory survey endorsing the Polar Ship Certificate; and (Add. to CIn)
- (WIn) 3.3.3.2 if a survey shows that the condition of a ship or its equipment is (Add. to CIn) unsatisfactory – see part "General", section 4.8.
- (WP) **3.4 Periodical surveys** – see part "General", paragraph 5.13.3.4
- (WP) 3.4.1 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the examination of current certificates and other records should consist of:
- (WP) 3.4.1.1 the provisions of (WA) 3.2.1 except (WA) 3.2.1.3 and (WA) 3.2.1.5. (Add. to EP)
- (WP) 3.4.2 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the periodical survey of the life-saving appliances and other equipment should consist of:
- (WP) 3.4.2.1 the provisions of (WA) 3.2.2 except (WA) 3.2.2.1 to (WA) 3.2.2.4 and (Add. to EP) (WA) 3.2.2.32 to (WA) 3.2.2.36.

- (WP) 3.4.3 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the completion of the periodical survey should consist of:
- (WP) 3.4.3.1 after a satisfactory survey, endorsing the Polar Ship Certificate; and
(Add. to EP)
- (WP) 3.4.3.2 if a survey shows that the condition of a ship or its equipment is
(Add. to EP) unsatisfactory – see part "General", section 4.8.
- (WR) **3.5** **Renewal surveys** – see part "General" paragraph 5.13.3.5
- (WR) 3.5.1 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the examination of current certificates and other records should consist of:
- (WR) 3.5.1.1 the provisions of (WA) 3.2.1, except the Polar Ship Certificate.
(Add. to PR, CR, ER, RR)
- (WR) 3.5.2 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the renewal survey of the hull, machinery and equipment should consist of:
- (WR) 3.5.2.1 for cargo ships, the provisions of (WA) 3.2.2;
(Add. to CR, ER, RR)
- (WR) 3.5.2.2 for passenger ships, the provisions of (WA) 3.2.2 except (WA) 3.2.2.18;
(Add. to PR)
- (WR) 3.5.2.3 for passenger ships, examining that a proper sized immersion suit of the insulated type or a thermal protective aid is provided for each person on board according to the operational assessment (Polar Code part I-A/para.8.3.3.1.1 and 8.3.3.1.2); and
(Add. to PR)
- (WR) 3.5.2.4 for ice strengthened ships, examining that sensors for navigational equipment, required either by SOLAS or the Code, projecting below the hull are protected against ice (SOLAS 74/00 ch.V, Polar Code part I-A/para.9.3.2.1.4.1).
(Add. to PR, ER)
- (WR) 3.5.3 For compliance with part I-A of the International Code for Ships Operating in Polar Waters the completion of the renewal survey should consist of:
- (WR) 3.5.3.1 after a satisfactory survey, issuing the Polar Ship Certificate.
(Add. to PR, CR, ER, RR)

Appendix 1

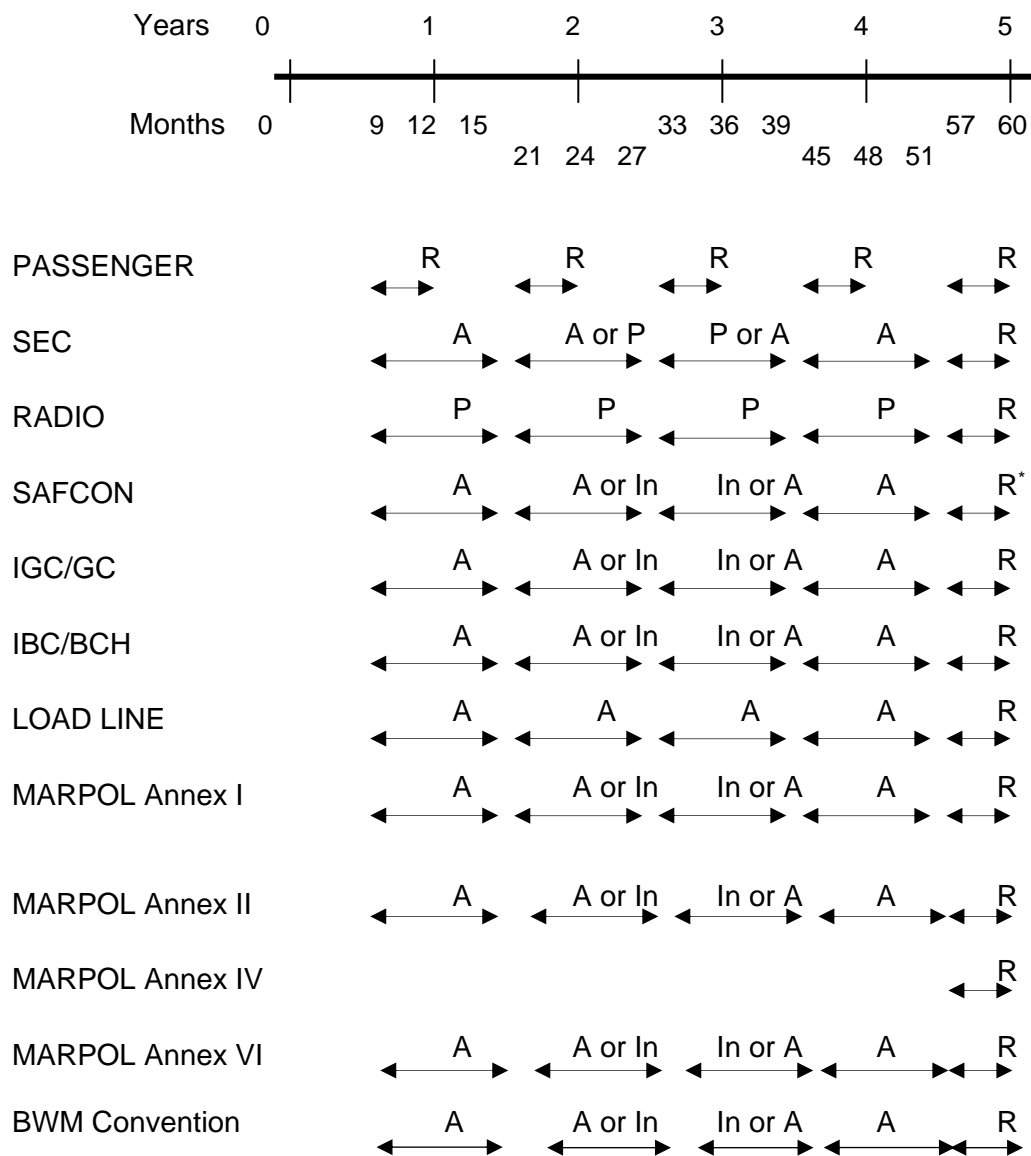
**SUMMARY OF AMENDMENTS TO MANDATORY INSTRUMENTS REFLECTED IN THE
SURVEY GUIDELINES UNDER THE HSSC**

The amendments to mandatory instruments reflected in annexes 1 to 4 are summarized below to facilitate amendments to the Survey Guidelines under the HSSC in the future:

SOLAS 74	up to and including the 2015 amendments (resolution MSC.392(95))
SOLAS PROT 1988	up to and including the 2015 amendments (resolution MSC.395(95))
LLC 66	up to and including the 2005 amendments (resolution A.972(24))
LL PROT 1988	up to and including the 2014 amendments (resolution MSC.375(93))
MARPOL	up to and including the 2018 amendments (resolution MEPC.301(72))
BWM Convention	up to and including the 2018 amendments (resolution MEPC.299(72))
NO _x Technical Code 2008	up to and including the 2016 amendments (resolution MEPC.272(69))
IBC Code	up to and including the 2014 amendments (resolutions MEPC.250(66)/MSC.369(93))
IGC Code	up to and including the 2014 amendments (resolution MSC.370(93))
BCH Code	up to and including the 2014 amendments (resolutions MSC.376(93)/MEPC. 249(66))
LSA Code	up to and including the 2014 amendments (resolution MSC. 368(93))
FSS Code	up to and including the 2014 amendments (resolution MSC. 367(93))
IGF Code	adopted by resolution MSC.391(95) in 2015
Polar Code	adopted by resolutions MSC.385(94)/MEPC.264(68) in 2014/2015
BWMS Code	adopted by resolution MEPC.300(72) in 2018

Appendix 2

**THE HARMONIZED SYSTEM OF SURVEY AND CERTIFICATION
DIAGRAMMATIC ARRANGEMENT**



Code of types of survey:

- R – Renewal
- P – Periodical
- In – Intermediate
- A – Annual

* The cargo ship safety construction renewal survey may be commenced at the fourth annual survey and may be progressed during the succeeding year with a view to completion by the fifth anniversary date. The survey items of the fourth annual survey should not be credited to the completion of the renewal survey.